DOCUMENT RESUME

ED 232 041 CE 036 536

TITLE	Vocational Education. Report by the Secretary of Education to the Congress, 1982.
INSTITUTION	Office of Vocational and Adult Education (ED), Washington, DC.
PUB DATE	Jun 83
NOTE	214p.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01/PC09 Plus Postage.
DESCRIPTORS	Adult Education; Annual Reports; Bilingual Education; Compliance (Legal); Consumer Education; Correctional Education; Disadvantaged; Displaced Homemakers; Economic Development; Educational Finance; *Educational Practices; Educational Quality; Enrollment; Financial Support; Job Placement; Job Training; Minority Groups; Outcomes of Education; Postsecondary Education; Program Administration; Program Costs; Program Descriptions; Program Development; *Program Effectiveness; *Program Implementation; Program Improvement; School Districts; Secondary Education; State Programs; Student Characteristics; Student Organizations; *Vocational Education
IDENTIFIERS	Quick Startup Vocational Programs

ABSTRACT

During the 1980-81 school year, enrollments in vocational education programs totaled nearly 16.9 million and federal, state, and local capital outlays for vocational education increased by approximately $470 million from 1979-80 to an all-time high of $7.3 billion. Vocational education also served significantly increased numbers of handicapped, disadvantaged, and limited English-proficient persons during 1980-81. Also showing an increase was the number of men and women in programs that are considered nontraditional for their respective sexes. As part of planned economic development, 20 states and Puerto Rico have established quick-start vocational training programs that provided training for an estimated 110,000 persons in 1981-82. Regarding impact, studies indicate that secondary vocational education can make a significant, if limited, contribution to improving productivity and reducing income inequality. Enrollment in vocational education courses, furthermore, does not seem to limit additional educational pursuits, as all types of students participate in all types of postsecondary educational programs. Some researchers have also concluded that vocational education has some influence in preventing school dropouts. In summary, vocational education continues to contribute a consistent flow of skilled, entry-level workers from its regular secondary and postsecondary programs and to provide specialized training and retraining for adults, thereby simultaneously meeting the needs of students, employers, and communities. (Author/MN)

ED232041

VOCATIONAL EDUCATION

Report by the Secretary of Education to the Congress

1982

CE036536

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

UNITED STATES DEPARTMENT OF EDUCATION

OFFICE OF THE SECRETARY

THE SECRETARY

TO THE CONGRESS OF THE UNITED STATES:

As Secretary of Education, it is my privilege to submit this report on the status of vocational education for fiscal year 1982.

This report was prepared by the Office of Vocational and Adult Education, and is transmitted according to the requirements of the Vocational Education Act of 1963, as amended by Title II of the Education Amendments of 1976.

Respectfully yours,

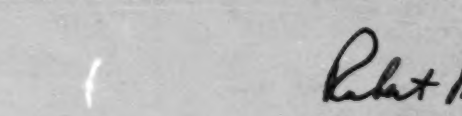
T. H. Bell

June 1983

FOREWORD

This annual report on the status of vocational education is mandated by the Vocational Education Act of 1963, as amended (Title II, Public Law 94-482). The report includes data available at time of publication for school year 1980-81 obtained through the Vocational Education Data System (VEDS), which is the national vocational education reporting and accounting system also mandated by the Act. Not all of these data are as yet in final form. Throughout this report we will use terms and dates such as 1979-80 and 1980-81 to mean the States' school year from July 1 of one year to June 30 of the next.

The focus of this report is to provide an overview of the progress and status of vocational programs conducted in the field during school year 1981-82. Part I of this report describes the status of vocational education in terms of appropriations, outlays, students, vocational student organizations, program improvement, State and local administration, occupational information, and compliance and quality reviews. Part II measures the impact of vocational education by describing some recent research findings of the National Center for Research in Vocational Education, discussing vocational education's role in quick-start economic development programs, and listing examples of successful vocational education programs.



Robert M. Worthington, Ph.D.
Assistant Secretary for
Vocational and Adult Education

June 1983

ACKNOWLEDGEMENTS

This report on the status of vocational education was prepared by the Office of Vocational and Adult Education (OVAE), with development, coordination, and editorial services provided by OVAE's Policy Analysis Staff.

Data contained in Part I and Appendixes 1 and 2 were contributed by the National Center for Education Statistics, U.S. Department of Education. The ready assistance provided by the NCES staff is greatly appreciated.

Information for specific sections was provided by the following Department of Education personnel:

Appropriations and outlays	- Albert Marra
Agriculture	- Byron Rawls
Business education	- James Wykle
Marketing and distributive education	- Edwin Nelson
Health occupations education, and OCR methods of administration	- Patricia Kroe
Occupational home economics and consumer and homemaking education	- Bertha King
Trade and industrial education	- Robert Miller
Technical education, energy, and postsecondary and adult programs	- Walter Brooking
Cooperative vocational education, work-study, and work experience and career exploration program	- Marion Craft
Apprenticeship	- Cleveland Randle
Industrial arts	- Louis Godla
Guidance, counseling, and placement	- David Pritchard
Handicapped and disadvantaged students	- Charlotte Conaway
Displaced homemaker programs	- Loretta Brown
Bilingual programs	- Richard Naber
Incarcerated students	- Bernard O'Hayre
Appalachia programs	- George Sanders
Programs for Indians	- Harvey Thiel
Sex equity	- Harriet Medaris
State evaluations	- Leslie Thompson
State research coordinating unit projects and projects of national significance	- Steven Zwillinger
State personnel development	- Karen Cossaro
Curriculum coordination centers	- Bernice Anderson
National Center for Research in Vocational Education	- Mary Lovell
Coordinating Committee for Research in Vocational Education	- Claudette Eryasha
National Advisory Council on Vocational Education	- LeRoy Cornelsen
Administration of programs, State planning, construction, residential vocational schools, and contracting	- Ruby Jenkins
Management assistance program	- Daryl Nichols
Occupational information	- Gisela Harkin
Advisory councils	- Gloria Williams
Audits	- Laura Johns
Quick-start training	- Marcel Duvall

In school year 1980-81, as in previous years, vocational education helped to prepare persons of all ages in all communities for work. Enrollments totaled nearly 16.9 million [1], and Federal, State, and local outlays increased by approximately $470 million from 1979-80 to an all-time high of $7.3 billion.

Institutions offering vocational education provide not only benefits to students, but a wide range of special services to their communities. One of these services is customized, quick-start training programs for individual firms, as part of planned economic development. Twenty States and Puerto Rico have established such programs with a total funding of $28.8 million, of which 72 percent was State and local funds. During 1981-82, an estimated 110,000 persons were trained in this type of program, alone.

Vocational education also showed significant increases in the numbers of handicapped, disadvantaged, and limited English proficient persons served during 1980-81. The enrollment of men and women in programs nontraditional for their respective sexes (e.g., males enrolled in consumer and homemaking education, or females enrolled in agriculture) also showed some gains. Vocational education also continued to serve other special population groups such as displaced homemakers, Indians, the incarcerated, and students in the Appalachian Region.

Regarding impact, studies indicate that secondary vocational education can make a significant, if limited, contribution to improving productivity and reducing income inequality. Persons who take more concentrated amounts of vocational education (usually three credits or more) are more likely to be in the labor force for a full year than those who take only limited amounts (usually less than three credits). Males who take more concentrated amounts of vocational education annually earn $1,000 to $2,000 more than those who do not. This income advantage is partly due to postsecondary educational involvement of non-vocational graduates; but, the advantages over students with no vocational credits still persist when this factor is ruled out, even if they are somewhat less. White females concentrating in vocational education reportedly have substantial earnings advantages over other women.

Further, enrollment in vocational education does not seem to limit additional educational pursuits, as all types of students participate in all types of postsecondary education programs. Some researchers have also concluded that vocational education has some influence in preventing school dropouts. However, although increased exposure to vocational education programs adds to a school's ability to retain students, it is apparently not enough to retain those youth who are highly alienated from formal schooling.

In summary, vocational education continues (a) to contribute to a consistent flow of skilled, entry-level workers from its regular secondary and postsecondary programs, and (b) to provide specialized training and retraining for adults. In other words, it simultaneously meets the needs of students, employers, and communities.

---

1 The Vocational Education Data System (VEDS) generally specifies that no student should be reported as enrolled in more than one vocational education program. However, a few States cannot rigorously follow this rule because of the formats of their own data systems. Consequently, when program enrollments are aggregated, the total number of individual students served will be somewhat less than total enrollments.

CONTENTS

		PAGE
	LETTER OF TRANSMITTAL	i
	FOREWORD	iii
	ACKNOWLEDGEMENTS	v
	SUMMARY	vii
	LIST OF TABLES	xiii
	LIST OF CHARTS	xiv
I.	STATUS OF VOCATIONAL EDUCATION IN 1981-82	1
	APPROPRIATIONS	3
	OUTLAYS	4
	PROGRAMS AND STUDENTS	4
	Programs Leading to Paid Employment	5
	Agriculture Education	11
	Business Education	12
	Marketing and Distributive Education	13
	Health Occupations Education	17
	Occupational Home Economics Education	18
	Trade and Industrial Education	19
	Technical Education	24
	Energy Education	28
	Cooperative Vocational Education	30
	Apprenticeship	31
	Other Programs	32
	Consumer and Homemaking Education	33
	Industrial Arts Education	34
	Work Experience and Career Exploration Program	35
	Guidance, Counseling and Placement	36
	Target Populations Programs	37
	Handicapped Students	38
	Disadvantaged Students	39
	Postsecondary and Adult Programs	40
	Displaced Homemakers	43
	Vocational Work-Study	45
	Bilingual Vocational Training	46
	Incarcerated Students	48
	Appalachia Program	49
	Programs for Indian Tribes and Indian Organizations	50

PAGE

VOCATIONAL STUDENT ORGANIZATIONS..... 51

SEX EQUITY..... 57
Sex Equity Personnel..... 59
Support Services for Women and Other Student Services... 59
Grants to Overcome Sex Bias..... 59

PROGRAM IMPROVEMENT..... 62
State Evaluations..... 62
State Research Coordinating Unit Projects..... 64
State Personnel Development..... 69
Programs of National Significance..... 71
Projects of National Significance..... 72
Curriculum Coordination Centers (CCC's)..... 73
National Center for Research in Vocational Education..... 74
Coordinating Committee for Research in Vocational Education..... 77
National Advisory Council on Vocational Education..... 77

STATE AND LOCAL ADMINISTRATION..... 78
Administration of Programs..... 78
Occupational Information..... 80
Methods of Administration - Civil Rights..... 81
Construction of Area Vocational Schools..... 82
Residential Vocational Schools..... 82
Contracting for Vocational Education..... 82
State and Local Advisory Councils..... 83

MANAGEMENT ASSISTANCE PROGRAM..... 84

AUDITS..... 86

II. IMPACT OF VOCATIONAL EDUCATION..... 87

THE EFFECTS OF PARTICIPATING IN SECONDARY VOCATIONAL EDUCATION 89

QUICK-START ECONOMIC DEVELOPMENT PROGRAMS..... 101

EXAMPLES OF SUCCESSFUL VOCATIONAL EDUCATION PROGRAMS..... 105
Agriculture Education..... 105
Business Education..... 106

PAGE

Marketing and Distributive Education..... 107
Health Occupations Education..... 108
Occupational Home Economics Education..... 109
Trade and Industrial Education..... 110
Technical Education..... 112
Energy Education..... 112
Cooperative Vocational Education..... 113
Apprenticeship..... 114
Consumer and Homemaking Education..... 114
Industrial Arts Education..... 116
Guidance, Counseling and Placement..... 117
Programs for the Handicapped..... 118
Programs for the Disadvantaged..... 119
Postsecondary and Adult Programs..... 119
Displaced Homemaker Programs..... 121
Bilingual Programs..... 122
Programs for the Incarcerated..... 122
Sex Equity Programs..... 123
Appalachia Programs..... 123
Programs for Indian Tribes and Indian Organizations..... 124

APPENDIXES..... 127

1. FUNDING TABLES 1980-81..... 129
2. ENROLLMENT TABLES 1980-81..... 153
3. PROJECTS OF NATIONAL SIGNIFICANCE IN PROGRESS DURING FISCAL YEAR 1982..... 165
4. PRODUCTS DEVELOPED BY THE NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION, BY FUNCTION, FISCAL YEAR 1982..... 169
5. NATIONAL OCCUPATIONAL INFORMATION COORDINATING COMMITTEE (NOICC), CAREER INFORMATION DELIVERY SYSTEMS..... 175

LIST OF TABLES

PAGE

Federal appropriations under the Vocational Education Act, fiscal years 1980-1982..... 3

Federal and State/local vocational education outlays (including carryover funds) by Sections of the Act for school year 1980-81: 50 States, D.C., and Puerto Rico..... 7

Number and percent change in reported total enrollment in vocational education (VEA) by institutional level: 50 States and D.C., 1979-80 to 1980-81..... 8

Number and percent change in reported total enrollment in vocational education (VEA) by program area: 50 States and D.C., 1978-79 to 1980-81..... 9

Total vocational education enrollment (VEA), by institutional level and by program area: 50 States and D.C., 1980-81..... 10

Number and percent change in reported enrollment in marketing and distributive education by level, 1976-1981..... 15

Percent of marketing and distributive education enrollment by level, 1976-1981..... 16

Cooperative vocational education enrollment in marketing and distributive education by level, 1976-1981..... 17

Number and percent change in reported enrollment in trade and industrial education by level, 1976-1981..... 20

Trade and industrial cooperative vocational education enrollment and percent of total cooperative vocational education enrollment, 1976-1981..... 21

Trade and industrial apprentice enrollment and percent of total apprentice vocational education enrollment, 1976-1981..... 22

Number and percent of females enrolled in trade and industrial education, 1976-1981..... 23

Number and percent of special needs students enrolled in trade and industrial education: 50 States and D.C., 1979-80 and 1980-81..... 23

Number and percent of trade and industrial teachers, 1976-1981..... 24

Target population and percent increase in technical education enrollment: 50 States and D.C., 1979-80 and 1980-81..... 26

PAGE

Direct instructional costs and percent increase for technical education, by source of funds: 50 States and D.C., 1979-80 and 1980-81..... 27

Total outlays and percent change for Section 123 energy education programs, by source of funds: 50 States, D.C., and Puerto Rico, 1979-80 and 1980-81..... 29

Postsecondary and adult enrollment by program: 50 States and D.C., 1978-79 to 1980-81..... 42

Female enrollment in vocational education (VEA) by program area, 1977-1981..... 58

Federal and State/local outlays (including carryover funds) for sex equity activities under the VEA, school years 1978-79 to 1980-81, United States and Outlying Areas..... 60

Program improvement projects by legislative section, 1981-82..... 65

Program improvement projects by recipient of funding, 1981-82..... 66

Program improvement projects by target population, 1981-82..... 67

Number of full-time instructional staff (VEA), by institutional type and program area: 50 States and D.C., 1980-81..... 70

LIST OF CHARTS

Outlays for vocational education (VEA) by source of funds 1972-1981..... 6

I. STATUS OF VOCATIONAL EDUCATION IN 1981-82

Vocational education, through its many programs, services, and activities, prepares persons of all ages in all States for work by providing equal educational opportunities for males and females, the disadvantaged, the handicapped, students with limited English proficiency, Indians, and the incarcerated. Vocational education also retrains and upgrades adult workers to help them keep abreast of changing needs of business and industry. By meeting the educational needs of individuals through vocational education, significant contributions toward achieving national goals such as improved productivity, economic development, and defense preparedness are realized.

The following describes the status of vocational education primarily at the State and local levels in 1980-81 in terms of the requirements of the Vocational Education Amendments of 1976.

APPROPRIATIONS

Table 1 below lists the total Federal appropriations for 1980, 1981, and 1982 under the Vocational Education Act. Some of the funds listed are only for Federal discretionary grants and contracts and are not allocated to States. The discretionary funds include: 1 percent of basic grants and program improvement which is used for Indian vocational training; programs of national significance; bilingual vocational training; and funds reserved for the National Occupational Information Coordinating Committee (NOICC). These funds, along with State advisory council funds, are not distributed through the State Boards for Vocational Education. State advisory council funds go directly to the councils themselves, or to their designated fiscal agents.

Table 1. -- Federal appropriations under the Vocational Education Act, fiscal years 1980-1982

	1980	1981	1982
Basic grants	$562,266,000	$518,139,000	$497,280,000
Program improvement	124,817,000	93,323,000	89,590,000
Programs of national significance	10,000,000	7,477,000	8,178,000
Special programs for the disadvantaged	20,000,000	14,954,000	14,356,000
Consumer and homemaking education	43,497,000	30,347,000	29,133,000
State advisory councils	6,500,000	6,500,000	6,500,000
Bilingual vocational training	4,800,000	3,960,000	3,686,000
State planning	5,000,000	3,738,000	3,588,000
Smith-Hughes (Permanent Appropriation)	7,161,455	7,161,455	7,161,455
Total	$784,041,455	$685,599,455	$659,472,455
Total for allocation to State Boards	$754,454,091	$661,121,728	$634,813,648

The funds allocated to the State Boards are made available during the program year following their appropriation. Thus, the fiscal year 1980

Federal appropriations for vocational education were first available for expenditure by the States during the 1980-81 school year beginning July 1, 1980. These 1981 State allotments remain available for obligation by the States for a 27-month period.

Congress appropriated $103 million more for vocational education in fiscal year 1980 than in 1979. For the 1981-82 school year, the amount appropriated was $685,599,455, or $98 million less than the 1980 appropriation. This reduction was a result of Congressional rescissions, prompted by efforts to reduce Federal spending and control the inflation which had been plaguing the country during the late 1970's and early 1980's.

OUTLAYS

Because States and Outlying Areas have a 27-month period in which to spend any single year's appropriation, and all States carry some funds over into the second year of the 27-month period, the States' annual outlays of Federal Vocational Education Act funds are always different from the annual amounts appropriated by the Congress. In 1980-81, over $719 million Federal VEA funds were expended, including carryover funds from previous years and planning funds available under Section 102(d). This figure includes only actual outlays of funds, and does not include any unliquidated obligations.

Outlays (which include carryover funds from previous years) have been increasing steadily since 1972 as Chart A shows. State and local outlays totaled over $6.5 billion in 1980-81, and overmatched Federal outlays by a ratio of 9 to 1. These outlays are reported by States for those programs and activities included in each State plan required by the Vocational Education Act. However, as States have some discretion as to which programs are included in their plans, these figures should be viewed as the minimum amount spent, so the "actual" figure may be somewhat higher. Table 2 provides a detailed list of outlays by each section of the Act and program purpose.

PROGRAMS AND STUDENTS

According to the Vocational Education Data System (VEDS), 16,861,810 students were served nationwide in vocational education (50 States and the District of Columbia) in school year 1980-81, including nearly 10.5 million secondary and 6.4 million postsecondary and adult students. These figures represent a slight increase (2.5 percent) over 1979-80, but a 1.0 percent decrease from 1978-79 enrollments. (Please refer to the footnote in the Summary for more detailed information on the total enrollment figure.)

Among individual programs, enrollments changed significantly. Business education, health, and industrial arts had the largest increases, with industrial arts gaining over 360,000 enrollments, an increase of 23.6 percent. Decreases in enrollments were reported in agriculture, marketing and distributive education, and consumer and homemaking education.

Programs Leading to Paid Employment

Since the main purpose of vocational education is to prepare persons for paid employment, the following sections describe the generally recognized vocational program areas leading to paid employment: agriculture, business education, marketing and distributive education, health, occupational home economics, trade and industrial education, and technical education. Three other programs, energy education, cooperative vocational education, and apprenticeship, also provide training for paid employment and are included in this section.

Outlays

For Vocational Education (VEA) By Source of Funds

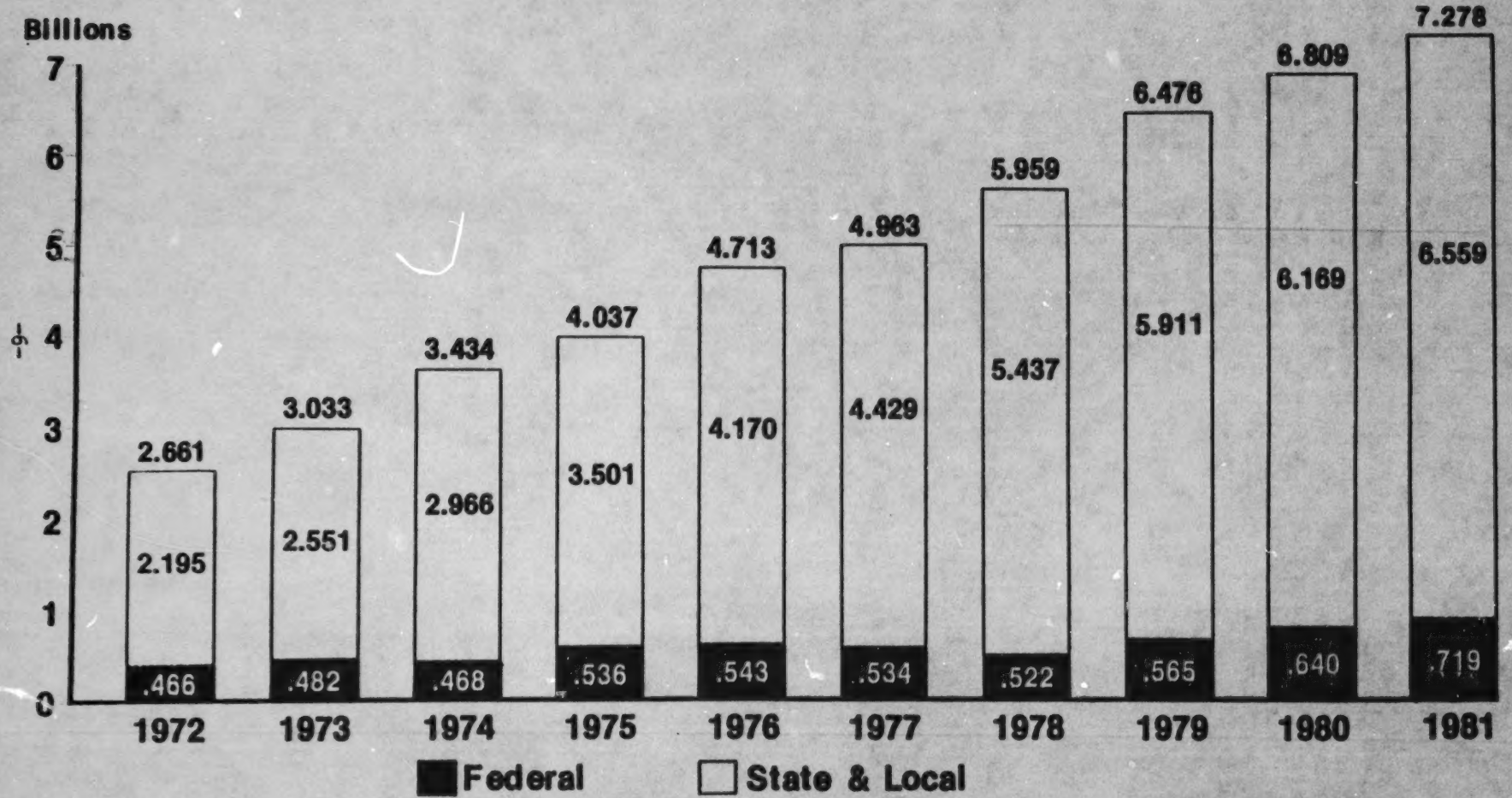


Chart A

Source: U.S. Department of Education, (1) Office of Vocational and Adult Education, data for fiscal years 1972 through 1978; (2) National Center for Education Statistics, Vocational Education Data System, data for fiscal years 1979 through 1981.

Table 2. -- Federal and State/local vocational education outlays (including carryover funds) by Sections of the Act for school year 1980-81: 50 States, D.C., and Puerto Rico

	Federal	State/local	Total
Section 110, National Priority Programs (Excess costs only, except for post./adult)*			
Handicapped	68,448,286	156,842,171	225,290,457
Disadvantaged	133,930,299	384,260,330	518,190,629
Limited English proficient	7,049,710	19,725,357	26,775,067
Postsecondary and adult	172,803,426	2,544,634,375	2,717,437,801
Section 120, Basic Grants			
Subtotal	525,409,779	5,767,794,431	6,293,204,210
Vocational programs	423,467,165	4,365,701,299**	4,789,168,464
Work-study	6,776,944	5,551,296**	12,328,240
Cooperative	23,049,772	244,710,758**	267,760,530
Energy	924,494	536,253**	1,460,747
Construction	9,653,684	71,269,145**	80,922,829
Full-time personnel	3,131,809	111,393**	3,243,202
Stipends	869,320	0**	869,320
Placement Services	345,241	3,469,080**	3,814,321
Industrial arts	5,767,449	177,752,721**	183,520,170
Support services	1,942,351	558,940**	2,501,291
Day care	785,153	955,300**	1,740,453
Displaced homemakers	3,654,572	1,929,128**	5,583,700
Residential schools	339,165	4,682,669**	5,021,834
Contracted services	473,971	3,517,465**	3,991,436
State administration	36,248,875	53,154,833**	89,403,708
Local administration	7,979,814	296,380,157**	304,359,971
Section 130, Program Improvement and Supportive Services			
Subtotal	122,908,194	290,952,049	413,860,243
Research coordinating units	33,790,364	19,574,252	53,364,616
Guidance and counseling	44,881,633	208,086,067	252,967,700
Preservice and inservice	28,953,648	27,422,828	56,376,476
Grants to overcome sex bias	4,135,833	441,789	4,577,622
State administration	9,598,267	9,892,367	19,490,634
Local administration	1,548,449	25,534,746	27,083,195
Section 140, Special Programs for the Disadvantaged***			
Special disadvantaged	20,698,678	11,836,790	32,535,468
Section 150, Consumer and Homemaking			
Subtotal	45,791,593	487,803,977	533,595,570
Non-depressed areas -- programs	15,053,505	249,913,299**	264,966,804
Ancillary services	4,351,233	5,231,103**	9,582,336
Depressed areas -- programs	22,837,701	217,310,760**	240,148,461
Ancillary services	3,549,154	5,532,805**	9,081,959
Section 102(d), State Planning***			
State planning	4,470,098	518,080	4,988,178
TOTAL	719,278,342	6,558,905,327	7,278,183,669

* Funds in Section 110 are duplicate counts of funds listed in Sections 120 and 130 and are not added in the Total figures.

** Detail data for New York not reported for these categories, but included in subtotal.

*** No nonfederal funding match required by the Act.

Table 3. -- Number and percent change in reported total enrollment in vocational education (VEA) by institutional level: 50 States and D.C., 1979-80 to 1980-81

Institutional level	Number in thousands		Percent change 1979-80 to 1980-81
	1979-80*	1980-81	
Total	16,453	16,862	+2.5
Secondary	10,082	10,466	+3.8
Postsecondary Total	6,371	6,396	+0.4
Regionally accredited institutions	4,196	4,123	-1.7
State approved institutions	474	449	-5.3
Other institutions	1,702	1,824	+7.2

* Revised from earlier published figures.

Source: U.S. Department of Education, National Center for Education Statistics, Vocational Education Data System.

Table 4. -- Number and percent change in reported total enrollment in vocational education (VEA) by program area: 50 States and D.C., 1978-79 to 1980-81

Program area	Number in thousands			Percent change	
	1978-79	1979-80	1980-81	1978-79 to 1979-80	1979-80 to 1980-81
All programs.....	16,827	16,453	16,862	-2.2	+2.5
Agriculture.....	959	879	843	-8.4	-4.0
Distribution.....	914	961	930	+5.2	-3.3
Health.....	789	834	950	+5.8	+13.8
Consumer and homemaking.....	3,594	3,386	3,189	-5.8	-5.8
Occupational home economics.....	577	552	574	-4.4	+3.9
Business education.....	3,422	3,400	3,615	-0.6	+6.3
Technical.....	469	499	506	+6.4	+1.3
Trade and industrial.....	3,386	3,216	3,222	-5.0	+0.2
Industrial arts.....	1,608	1,537	1,900	-4.5	+23.6
Other programs not elsewhere classified.....	1,108	1,190	1,134	+7.4	-4.7

Note: Numbers are rounded to thousands; however, percent change was calculated with actual numbers.

Source: U.S. Department of Education, National Center for Education Statistics, Vocational Education Data System.

Table 5. -- Total vocational education enrollment (VEA), by institutional level and by program area: 50 States and D.C., 1980-81

Program area	Total	Secondary	Postsecondary			
			Total	Regionally accredited institutions	State approved	Other
Total enrollment	16,861,810	10,466,231	6,395,579	4,122,589	448,953	1,824,037
Agriculture	843,401	664,286	179,115	80,763	8,243	90,109
Distribution	929,689	378,212	551,477	385,156	15,604	150,717
Health	949,653	192,337	757,316	563,392	33,096	160,828
Consumer and homemaking	3,189,248	2,549,591	639,657	330,260	39,299	270,098
Occupational home economics	573,530	376,591	196,939	136,682	11,752	48,505
Business education	3,615,048	2,081,370	1,533,678	1,112,166	61,573	359,939
Technical	505,859	33,854	472,005	424,766	14,994	32,245
Trade and industrial	3,221,586	1,344,093	1,877,493	951,497	255,759	670,237
Industrial arts	1,899,779	1,894,228	5,551	1,002	9	4,540
Other not elsewhere classified	1,134,017	951,669	182,348	136,905	8,624	36,819

Source: U.S. Department of Education, National Center for Education Statistics, Vocational Education Data System.

Agriculture Education

Agricultural occupations have changed rapidly over the last 20 years. The agricultural field now includes related agricultural occupations, renewable natural resources, as well as traditional production agriculture and farm business management. Agriculture/agribusiness is now one of the most technical and important industries in the United States. There is great concern in much of the world about adequate supplies of food, feed, and fiber for survival. Producers are concerned about abundant production, higher prices, better prospects for profits for most crops and livestock, and improving marketing in both domestic and international trade.

As agricultural educators look to the future, they are continuing to focus on projected labor force and education needs of the ever broadening agricultural industry and the people engaged in it. Educators are identifying and training for the new and emerging occupations in the agricultural industry, but are not overlooking the more traditional occupations such as production agriculture. They are upholding high standards and quality instruction at all education levels, including secondary, postsecondary, and adult, despite a crucial need for well qualified teachers who must be continuously updated in domestic and international agricultural demands and professional and technical practices. Curriculums should become competency based. Teaching materials, occupational experiences of students, achievement of awards, and articulation between the various levels of instruction should be more closely related to the goals of the agriculture program.

Enrollment in agriculture education totaled 843,401 in 1980-81 as shown in Table 5. Secondary enrollments accounted for 664,286, and postsecondary and adult enrollments totaled 179,115. Table 4 indicates that agriculture enrollment has declined from 1978-79, and in fact, shows the most decline of any of the program areas, 12.1 percent.

According to the Future Farmers of America student organization, secondary agriculture education students are enrolled in 8,200 high schools across America, many in urban settings. There are also about 540 postsecondary institutions offering agriculture programs for less than a baccalaureate degree.

In 1970, a U.S. Interdepartmental Committee on Manpower Needs and Employment Opportunities in Agriculture was established to determine the needs for training in agriculture at less than baccalaureate degree level. The committee (composed of representatives from several U.S. Departments including Agriculture, Commerce, Education, and Labor) identified 108 major occupations in agriculture and agribusiness. Their study reveals that these occupations were found in 195 of the 201 industries surveyed by the U.S. Census. The updated data reveal that approximately 5.5 million people or over 6 percent of the labor force consider agriculture or agribusiness as primary employment and use agricultural competencies in their work. The Census data did not include secondary employment, but it was reliably estimated to include another 3 percent of the work force. Thus, approximately 9 percent or over 9 million persons use agriculture or agribusiness competencies in their employment. This information will serve well as a labor force base for planning, developing, and maintaining

vocational education programs in these occupations. The Interdepartmental Committee currently is making projections of employment needs to 1985.

The Interdepartmental Committee indicated that there is an annual need to replace approximately 628,279 workers in the agriculture/agribusiness industry. Vocational education is supplying workers to meet this need, but only about 20 percent of secondary students are seniors who could be expected to enter the workforce each year. Even considering postsecondary and adult enrollments, there is still a great shortage of individuals entering the workforce in the occupations of agriculture, agribusiness and natural resources.

To help students achieve competency in agriculture and agribusiness occupations, virtually all agricultural students are involved in some type of occupational experience outside of the classroom. For example, agriculture leaders held a national workshop on the supervised occupational experience program in Washington, D.C. during the summer of 1982. There were over 200 participants from 46 States. Followup research indicates that 44 of the States attending the conference are now conducting their own followup activities. In one State 11,012 students in 240 high school programs earned $6,094,288 from their farming programs, and had accumulated farming investments of $12,292,290. In addition, 4,194 other students in the same schools earned $3,889,819 from work in agribusiness. The total earnings of the 15,206 students in that particular State were $9,984,107. This "hands on" experience not only brings in earnings, but is important to the development and training of students as they progress through vocational agriculture.

Vocational education programs designed to serve both domestic and international needs in production agriculture and agribusiness will be in great demand in the years ahead according to information exchanged at the third World Conference on Agriculture Education held in West Berlin, Germany in December 1982. Prerequisites to the needed program expansion are: 1) available resources; 2) a corps of well-trained teachers; 3) adequate numbers of local, State, regional, and national program coordinators; and 4) an understanding by administrators and program leaders of the vital role of vocational agriculture/agribusiness in meeting domestic and international needs. Enthusiasm by farm, industrial, business and professional leaders in agriculture is probably at an all-time high, and should be capitalized on to broaden vocational education for agriculture/agribusiness occupations.

Through analysis of local farm production records compared to State averages, local teachers have indicated that adult vocational education will be needed in the future. Long-range planning to improve production in agriculture and agribusiness includes upgrading employment skills of current workers and updating skills of former workers for re-entry into an agricultural occupation.

Business Education

Business education is a group of instructional programs that prepares individuals for a variety of activities in planning, organizing, directing, and controlling all business office systems and procedures. It includes

instruction in preparing, transcribing, systematizing, and preserving written communications and records; preparing and analyzing financial records; collecting accounts and receiving and disbursing money; gathering, processing and distributing information and mail; operating office machines and electronic data processing equipment; storing, distributing, and accounting for inventories of materials; operating telephone switchboards and delivering messages; and performing other business office duties. Opportunities are provided for students, both during and outside regular class time, to develop interests, skills, and knowledge in selected aspects of business office occupations as an integral part of the instructional program.

Business education programs train workers to enter the largest occupational group in the labor force, which includes bank tellers, bookkeepers, accounting clerks, cashiers, secretaries, and typists. According to the Bureau of Labor Statistics, about 18.9 million people worked in these administrative support and clerical jobs in 1980. While these jobs are located in virtually all industries, they are concentrated in the fast-growing service, trade, and finance sectors. Because of this concentration, these jobs are expected to grow more rapidly than the average for all occupations, from 18.9 million in 1980 to between 22.4 and 23.9 million workers by 1990, an increase of 19 to 26 percent.

Although new developments in computers, office machines, word processing, computer technology, and dictating equipment will enable office workers to do more work in less time and will change the skills needed in some jobs, continued growth in employment will be the norm. There will be an increased demand for office workers who are sufficiently adaptable and versatile to learn to operate new equipment. Exceptions to the growth in employment are keypunch operators, stenographers, and airline reservation and ticket agents--occupations that are expected to decline as improved technology reduces the need for workers. Conversely, the more extensive use of computers will greatly increase the employment of computer and peripheral equipment operators.

The enrollment in business education during 1980-81, as shown in Table 5, was 3,615,048, which is 214,991 more than the previous year, a 6 percent increase.

According to the Occupational Outlook Handbook published by the Department of Labor, advancement opportunities for office workers are good, and many employers provide courses in skills needed for more demanding jobs. Secretaries and typists, for example, may periodically attend classes to learn to operate new word processing equipment, information storage systems, and other automated equipment.

Marketing and Distributive Education

Marketing and distributive education (MDE) addresses that field of employment concerned with making services and products, that are conceived and produced by industry, readily available to consumers and other businesses. Because the scope of marketing is so broad and diversified, marketing and distributive education is organized into a variety of instructional programs, each identified with a principal industry.

Most secondary MDE programs are comprised of classes which provide instruction for a range of marketing occupations. Accommodating multiple instructional programs in self-contained classes is possible through goal-directed individualized instruction, applied general instruction, cooperative training, and student organization activities. Other secondary programs are organized as "specialized" programs, meaning that all enrollees are engaged in the same instructional program. Generally, such programs are found in communities with a large student population. In Houston, Texas, for example, the range of programs includes travel and tourism marketing, automotive supply marketing, fashion retailing, industrial/wholesale marketing, and finance and credit. Nationwide, fashion merchandising and training for occupations in the lodging industry are readily available.

At the postsecondary level, the same organizational patterns exist. Multiple career goals are accommodated through general marketing or mid-management programs. Specific programs are also offered with specializations similar to those in secondary programs, but with more emphasis on service occupations, such as real estate and insurance. In many institutions, however, the trend is to offer a core marketing program with options of two or three courses in specific employment fields.

According to VEDS data, the States allocated $300,603,240 in 1980-81 from Federal and nonfederal sources for instructional programs in marketing and distributive education.

The number of persons served by marketing and distributive education has fluctuated modestly over the past 5 years as shown in Table 6. In 1980-81, the total enrollment was 929,689, a decrease of 31,329 or 3.3 percent from the previous year. However, some States have shown dramatic shifts in enrollment. Overall, total enrollment in marketing and distributive education increased in 19 States, and decreased in 31 States in 1980-81. Even though enrollment fluctuates, more States show a decline which indicates a slight downward trend.

Table 6. — Number and percent change in reported enrollment in marketing and distributive education by level, 1976-1981

School year	Total	Percent change	Secondary	Percent change	Postsec./ adult	Percent change
1976-77	966,156	+7.3	385,882	+7.0	580,274	+7.5
1977-78	962,009	-0.4	397,429	+3.0	564,580	-3.0
1978-79	927,929	-3.5	368,792	-7.2	559,137	-1.0
1979-80	961,018	+3.6	396,313	+7.5	564,705	+1.0
1980-81	929,689	-3.3	378,212	-4.6	551,477	-2.3

Note: Enrollment in 1976-77 to 1978-79 includes 50 States, District of Columbia and Outlying Areas. Enrollment in 1979-80 and 1980-81 includes 50 States and District of Columbia.

Source: U.S. Department of Education, Office of Vocational and Adult Education, 1976-1978, and the National Center for Education Statistics, 1979-1981.

The relatively small increases and decreases which have occurred during recent years indicate that the States have not modified their priorities for marketing and distributive education programs to keep current with the needs of business and industry. Nationwide data suggest that State planning for instructional programs in marketing and distributive education has not reflected labor force needs and labor force composition.

Enrollment at the secondary level as shown in Table 6 was 378,212 in 1980-81, a 4.6 percent decrease from the previous year. The enrollment trend indicates that the secondary program, nationwide, is relatively stable, reflecting only small changes. The 7.2 percent decrease in 1978-79 and the subsequent 7.5 percent increase in secondary enrollments in 1979-80 are most likely reporting abnormalities.

Programs for adults have always accounted for a major portion of marketing and distributive education enrollment. In the early 1970's, marketing programs in community colleges and technical institutes grew, and consequently, the percentage of postsecondary enrollment increased and adult enrollment decreased, with secondary enrollment remaining stable around 40 percent. Adult and postsecondary enrollments were combined in 1979-80 as shown in Table 7, so the exact status of this trend is not known. Current and future data, therefore, will not provide an indication of service to employed adults who are enrolled in classes for advancing their competencies. Actual postsecondary/adult enrollment figures for 1980-81, however, decreased 2.3 percent from the previous year, to 551,477.

Table 7. — Percent of marketing and distributive education enrollment by level, 1976-1981

School year	Secondary	Postsecondary	Adult
1976-77	39.9	22.9	37.2
1977-78	41.3	25.8	32.9
1978-79	39.8	23.5	36.7
1979-80	41.2	58.8	
1980-81	40.7	59.3	

Note: Enrollment in 1976-77 to 1978-79 includes 50 States, District of Columbia and Outlying Areas. Enrollment in 1979-80 and 1980-81 includes 50 States and District of Columbia.

Source: U.S. Department of Education, Office of Vocational and Adult Education, 1976-1978, and the National Center for Education Statistics, 1979-1981.

Marketing and distributive education programs are organized into 17 groups for reporting purposes. At the secondary level, the largest enrollment was reported in general merchandise, a program chiefly identified with department and other multi-line stores. The next highest enrollments were in food services, food distribution, and apparel and accessories. At the postsecondary level, the largest enrollment was in real estate, followed by general merchandise, finance and credit, and industrial marketing.

These major enrollment patterns have continued over time. Major shifts to other marketing programs have not occurred, although enrollment was reported in all instructional programs. Presumably, the popularity of certain programs reflects both the client group interests and opportunities for employment. Additionally, opportunities for high school youth to enter cooperative training in mainstreet stores and shopping centers seem to dictate the types of instructional programs offered at the secondary level.

Of the students enrolled in marketing and distributive education, 193,197 participated in cooperative vocational education in 1980-81 as shown in Table 8. Cooperative vocational education remains strong even though enrollments decreased 2.6 percent from the previous year. The decrease at the secondary level outweighed the increase at the postsecondary level.

Table 8. -- Cooperative vocational education enrollment in marketing and distributive education by level, 1976-1981

School year	Total	Secondary	Percent	Postsec.	Percent
1976-77	210,825	NA	NA	NA	NA
1977-78	193,046	NA	NA	NA	NA
1978-79	163,321	NA	NA	NA	NA
1979-80	198,380	179,436	90.5	18,944	9.5
1980-81	193,197	171,537	88.8	21,660	11.2

Note: Enrollment in 1976-77 to 1978-79 includes 50 States, District of Columbia and Outlying Areas. Enrollment in 1979-80 and 1980-81 includes 50 States and District of Columbia.

Source: U.S. Department of Education, Office of Vocational and Adult Education, 1976-1978, and the National Center for Education Statistics, 1979-1981.

Cooperative vocational education continues to be a significant part of marketing and distributive education, especially at the secondary level. In fact, marketing and distributive education is the primary user of cooperative vocational education, accounting for 31.1 percent of all cooperative enrollment within vocational education. Cooperative vocational education is the most effective way of translating theory into practice in an employment field that is people intensive; that is, working with or relating to people. Further, the enrollment figures in cooperative vocational education indicate that the private sector is heavily involved in vocational education by providing work experiences for thousands of students.

Through marketing and distributive education programs, students have achieved employment success in entry jobs. Because of the nature of the instructional programs, completers are also prepared to advance in occupations. Case histories reported to the student organization indicate that many students have achieved management positions, or become owners and operators of various retail, wholesale, and service enterprises.

Health Occupations Education

Health occupations education is one of the most rapidly growing instructional clusters in vocational education. The Department of Education, through its Classification of Instructional Programs (CIPS), recognizes over 80 occupationally specific programs in this cluster (those programs providing entry-level skills for particular jobs) for funding through vocational education, an increase of 103 percent over the 40 programs recognized in 1970. In school year 1980-81, 949,653 students were enrolled in health occupations programs. Total enrollment increased 13.8 percent from 1979-80 to 1980-81. Nearly 80 percent of all enrollments are in postsecondary and adult programs which award graduates with certificates, diplomas, or associate degrees.

Graduates of health occupations education programs provide supportive services and technical assistance to professional health personnel in medicine, dentistry, and nursing. Graduates assist health professionals in providing diagnostic, therapeutic, preventive, restorative, and rehabilitative services to patients in health care facilities, the home, and community settings. Among the numerous careers available in the health field are positions in cardiopulmonary technology, dental hygiene, blood bank technology, therapeutic child care work, physician assisting-primary care, practical nursing, ophthalmic dispensing, and occupational therapy assisting.

Occupational Home Economics Education

Occupational home economics education uses the knowledge and skills of home economics to prepare youth and adults for paid employment at entry or advanced levels. Programs which prepare individuals for paid employment include: child care, management, and services; clothing, apparel, textiles management, production, and services; food production, management, and services; home furnishings and equipment management, production, and services; and institutional, home management, and supportive services.

These instructional programs contain organized instruction, supervised laboratory, cooperative and other work experiences in formal or informal settings. In each of the programs where it is applicable, students learn how to select and use computers and other advanced equipment. This is especially true in the food industry, clothing industry, and home furnishing and equipment programs.

Instructional programs have been adapted to meet the needs of displaced workers, and underemployed and unemployed persons. Much effort has also been made to assist elderly persons to use their skills or obtain new skills for employment so they may cope with inflation and the high cost of medical services. In addition, handicapped persons, economically disadvantaged persons, and the incarcerated have been enrolled in occupational home economics education. Based on reports from State supervisors and home economics teacher educators, all of these diverse populations have benefited from occupational home economics education by increasing their abilities to interrelate the workplace and the home, thus reducing the problems of coping with the multi-roles of the potential employee.

Enrollment in occupational home economics education in 1980-81 was 573,530, an increase of over 21,000 from 1979-80. Of those occupational home economics students whose sex was reported in 1980-81, 21.8 percent were male enrollments. This is an increase from 16.1 percent in 1976-77.

To develop additional occupational home economics education programs, Federal and State funded competency-based curriculum materials have been designed, developed, and implemented in modules. These materials have been disseminated to State and local vocational home economics educators at all educational levels and include the following examples:

- o alternative work experiences for occupational home economics education students, Virginia;

- o vocational home economics education role in entrepreneurship, Illinois;

- o an inservice education model for the diffusion of competency based curriculum in food production services for the incarcerated, Florida; and

- o curriculum framework for integrating and applying math, reading, language, and science in all occupational home economics programs for community colleges in Florida, Jacksonville Community College, Florida.

Another innovative curriculum is the foster parent training program in Nebraska. The program was designed to actively involve foster care workers and foster parents in learning together in order to improve relationships between the two groups. The curriculum consists of 12 modules to assist the foster parents in learning new skills such as improving relationships with child-placing agencies, preparing to be a parent to a child with special needs, and helping children learn how to cope with separation.

In Tennessee, 52 competency-based modules were developed for use in the occupational home economics program for food management, production, and services. The job-related competencies and tasks were adapted from the industry research conducted in Minnesota by the food service industry. Materials were designed for use in secondary and postsecondary programs, and usually for a 2-year program of study. The designated levels, "basic," "special," and "advanced" provided assistance to the teacher in selecting the learning experiences, content, and competencies for the individual learner.

Trade and Industrial Education

Trade and industrial education programs prepare students for jobs in industry and in service occupations. In order to keep up with changes in skills and competencies in the workplace, trade and industrial education works closely with labor and management to develop programs which provide the type of education and training students need now and for future growth.

Trade and industrial occupations are classified by levels of employment, ranging from operators to skilled craftspersons and technicians. Statistical data is collected and reported by 57 instructional programs coded and listed under 7 major categories: 1) construction trades, 2) mechanics and repairers, 3) precision and production, 4) transportation and material moving, 5) consumer and personal services, 6) protective services, and 7) trade and industrial supervision and management.

Over the past few years, trade and industrial education has maintained a large (though slightly declining) enrollment of over 3 million students. The enrollment size reflects the unusually broad scope and diversity of these programs which serve students at the secondary, postsecondary and adult levels of education.

Table 9. — Number and percent change in reported enrollment in trade and industrial education by level, 1976-1981

School year	Total	Percent change	Secondary	Percent change	Postsec./ adult	Percent change
1976-77	3,246,688	+ 4.4	1,420,695	+ 5.0	1,825,993	+ 3.9
1977-78	3,402,722	+ 4.8	1,469,828	+ 3.5	1,932,894	+ 5.9
1978-79	3,386,258	- 0.5	1,445,674	- 1.6	1,966,122	+ 1.7
1979-80	3,215,987	- 5.0	1,416,230	- 2.0	1,799,757	- 8.5
1980-81	3,221,586	+ 0.2	1,344,093	- 5.1	1,877,493	+ 4.3

Note: Enrollment in 1976-77 to 1978-79 includes 50 States, District of Columbia and Outlying Areas. Enrollment in 1979-80 and 1980-81 includes 50 States and District of Columbia.

Source: U.S. Department of Education, Office of Vocational and Adult Education, 1976-1978, and the National Center for Education Statistics, 1979-1981.

As shown in Table 9, 1980-81 student enrollment at the secondary level reached 1,344,093, a decrease of 72,137 or 5.1 percent from the previous year. At the postsecondary and adult level, the enrollment was 1,877,493, an increase of 77,736 or 4.3 percent. The 8.5 percent decrease in 1979-80 in postsecondary and adult trade and industrial education can be partly explained by the overall decrease in postsecondary vocational enrollments. In addition, reporting changes by some States accentuated enrollment decreases in trade and industrial education.

Cooperative vocational education continues to be a very important method of providing training for students in trade and industrial education. During 1980-81, student enrollment in cooperative trade and industrial vocational education was 148,915, virtually the same as the previous year. Trade and industrial enrollment comprises almost one fourth of all cooperative vocational education enrollment as shown in Table 10.

Table 10. — Trade and industrial cooperative vocational education enrollment and percent of total cooperative vocational education enrollment, 1976-1981

School year	Total vocational cooperative enrollment	T & I cooperative enrollment	T & I percent of total cooperative enrollment
1976-77	628,150	104,064	16.6
1977-78	580,316	130,930	22.6
1978-79	536.961	114,739	21.4
1979-80	595.663	149,373	25.1
1980-81	622,185	148,915	23.9

Note: Enrollment in 1976-77 to 1978-79 includes 50 States, District of Columbia, and Outlying Areas. Enrollment in 1979-80 and 1980-81 includes 50 States and District of Columbia.

Source: U.S. Department of Education, Office of Vocational and Adult Education, 1976-1978, and the National Center for Education Statistics, 1979-1981.

Apprenticeship training is another method used in preparing skilled craftsworkers for many occupations critical to our national economy. During 1980-81, trade and industrial education provided related classroom instruction in cooperation with employers who provided the practical experience for 153,648 apprentices in various occupational programs. Although this figure is an increase from the previous year, apprentice enrollments in trade and industrial education are decreasing. This decrease is demonstrated by the fact that in 1976-77, trade and industrial education programs accounted for almost 99 percent of all apprentice enrollments. By 1980-81, however, trade and industrial education programs accounted for less than 85 percent of all apprentice enrollments, even though total apprentice enrollments were unchanged, about 180,000 in both years.

Table 11. — Trade and industrial apprentice enrollment and percent of total apprentice vocational education enrollment, 1976-1981

School year	Total apprentice enrollment	T & I apprentice enrollment	Percent of total
1976-77	182,890	180,656	98.8
1977-78	*	*	*
1978-79	*	*	*
1979-80	142,378	132,511	93.1
1980-81	181,440	153,648	84.7

* Data not collected for these years.

Note: Enrollment in 1976-77 to 1978-79 includes 50 States, District of Columbia and Outlying Areas. Enrollment in 1979-80 and 1980-81 includes 50 States and District of Columbia.

Source: U.S. Department of Education, Office of Vocational and Adult Education, 1976-1978, and the National Center for Education Statistics, 1979-1981.

More and more women have enrolled in trade and industrial education programs during the past few years. This increase is due in part to a concerted effort to increase female enrollments, especially in these nontraditional programs. In 1980-81 female enrollment in trade and industrial education reached 538,746 a decrease of 28,002 students from the previous year. This decrease is possibly due to the large number of students whose gender was unreported. Although the problem of single-sex dominance in trade and industrial education has lessened slightly over the past few years, the recruitment of women for these programs still remains a major concern.

Table 12. — Number and percent of females enrolled in trade and industrial education, 1976-1981

School year	T & I enrollment	Female enrollment in T & I	Female percent of total
1976-77	3,246,688	466,865	14.5
1977-78	3,402,722	527,142	15.5
1978-79	3,411,796	393,864*	17.5*
1979-80	3,215,987	566,748**	18.5**
1980-81	3,221,586	538,746***	18.1***

* Does not include adult short term enrollments.
** Does not include 153,447 students whose gender was unreported.
*** Does not include 237,976 students whose gender was unreported.

Note: Enrollment in 1976-77 to 1978-79 includes 50 States, District of Columbia and Outlying Areas. Enrollment in 1979-80 and 1980-81 includes 50 States and District of Columbia.

Source: U.S. Department of Education, Office of Vocational and Adult Education, 1976-1978, and the National Center for Education Statistics, 1979-1981.

Students with special needs have obtained training through trade and industrial education for many years. During 1980-81, 109,467 handicapped, 473,870 disadvantaged and 29,713 students with limited English proficiency received special services in order to succeed in trade and industrial education programs. Assuming there are no duplicate counts, special needs students comprised 19 percent of the total trade and industrial enrollment as shown in Table 13.

Table 13. — Number and percent of special needs students enrolled in trade and industrial education: 50 States and D.C., 1979-80 and 1980-81

	1979-80	1980-81
Total T & I enrollment	3,215,987	3,221,586
T & I handicapped	82,738	109,467
Percent of total	2.6	3.4
T & I disadvantaged	396,119	473,870
Percent of total	12.3	14.7
T & I limited English proficiency	13,736	29,713
Percent of total	0.4	0.9

Source: U.S. Department of Education, National Center for Education Statistics.

Most teachers of trade and industrial education obtain their subject matter competency through many years of successful work experience in the occupations they are now teaching. They usually obtain their professional teacher training while they are employed as teachers. This concept of adequate successful work experience for trade and industrial teachers provides instructional content that is occupationally based.

During the last 4 years, the number of trade and industrial education teachers and staff has fluctuated as shown in Table 14. Because of the many programs offered in trade and industrial education, recruitment and continued employment of qualified teachers in all the programs is always a major problem. Attractive salaries in the private sector for these trades also contribute to teacher recruitment problems.

Table 14. -- Number and percent change of trade and industrial teachers, 1976-1981

School year	Teachers	Percent change
1976-77	91,277	+ 9.3
1977-78	87,856	- 3.7
1978-79	87,730	- 0.1
1979-80	92,397	+ 5.3
1980-81	96,253	+ 4.2

Note: Data for 1976-77 to 1978-79 includes 50 States, District of Columbia and Outlying Areas. Data for 1979-80 and 1980-81 includes 50 States and District of Columbia.

Source: U.S. Department of Education, Office of Vocational and Adult Education, 1976-1978, and the National Center for Education Statistics, 1979-1981.

Technical Education

Technical education was first officially recognized as a national educational priority in 1958, by Title VIII of the National Defense Education Act. From its first enrollments of a few thousand students in a relatively few engineering-related programs, the group of programs comprising the technical education area in the VEA enrolled 505,859 full-time and part-time students in 1980-81 (a 1.3 percent increase from 499,305 in 1979-80).

Although rapidly gaining a major emphasis within vocational education, technical education is a very difficult field to describe. With the exception of those technicians who work in the physical sciences and in the engineering technologies in technical education, the term "technician" may refer to a level of instruction, usually distinguished from other levels by having greater theoretical content, both scientific and mathematical. Almost all of the occupational clusters recognized by the Department of Education (such as trade and industrial, agriculture, and health, among others) include the technician level. As overall skill levels increase in

each occupational cluster, there is increasing uncertainty as to when a "skilled worker" could be reclassified as a "technician." However, because of long-standing reporting conventions, these technicians have always been included in the enrollment counts of the specific fields in which they are found, and not in the technical education cluster.

Although no total count of all technicians in all clusters is available, estimates by OVAE program experts and their State counterparts indicate that approximately 1.5 million persons are enrolled in public institutions and another 1 million in proprietary schools in these technical occupations. These figures include secondary, postsecondary, and adult levels of instruction, and encompass at least 170 different occupations as diverse as agricultural equipment technician, physical oceanographic technician, aircraft engine repair and maintenance technician, laser-electro-optic technician, foreign trade specialist, emergency medical technician, air traffic controller, and law enforcement officer.

These technicians need up to 2 years of intensive, formal education beyond the secondary level to cope with modern technologies, according to the U.S. Department of Labor's Bureau of Labor Statistics. In 1980-81, a majority of those students who were preparing to be technicians attended formal 2-year programs in nearly 1,600 public technical colleges and institutes, community colleges, and divisions of 4-year colleges or universities. A smaller, but still significant, number attended programs in more than 3,300 private nonprofit or proprietary trade and technical schools, and health schools.

Technicians and other comparably trained specialists who support professional scientists, engineers, physicians, and managers comprise almost 40 percent of the workforce. It is critical, therefore, that minority group members, handicapped, and women have access to training that will gain them entry into these occupations. Target populations in the Vocational Education Act technical programs showed significant increases in enrollments as shown by Table 15.

Table 15. -- Target population and percent increase in technical education enrollment: 50 States and D.C., 1979-80 and 1980-81

Target Population	1979-80	1980-81	Percent increase
Females	98,874*	111,572**	12.9
Handicapped	5,590	8,585	53.6
Disadvantaged	55,506	75,390	35.8
Limited English proficient	3,244	11,251	246.8

* Does not include 30,137 students whose gender was unreported.
** Does not include 39,366 students whose gender was unreported.

Source: U.S. Department of Education, National Center for Education Statistics, Vocational Education Data System.

Nevertheless, during 1980-81 only 1.7 percent of the technical education enrollment were handicapped students; 2.2 percent were limited English proficient; 14.9 percent were disadvantaged; and 23.9 percent were females. In addition, there is a considerable overlap between the female count and each of the other three categories. In future years, as a greater percentage of the workforce will require advanced technical education and as the supply of new workforce entrants dwindles, these enrollments should steadily increase.

VEDS does not break down total vocational education outlays by program. However, because of the increase in enrollments in technical education and the fact (see Table 16) that per-pupil direct instructional costs rose, it is safe to assume that total outlays for technical education programs rose somewhat during 1980-81. If so, this runs counter to the overall decrease in outlays for postsecondary and adult programs, where technical education programs are primarily located. (See section on postsecondary and adult programs p.40.) Table 16 shows a comparison of direct instructional costs for technical education over the two most recent years.

Table 16. — Direct instructional costs and percent increase for technical education, by source of funds: 50 States and D.C., 1979-80 and 1980-81

Source of funds	1979-80	1980-81	Percent increase
Federal (VEA)	$ 17,409,468 (6.4%)	$ 24,230,378 (7.9%)	39.2
Nonfederal	254,652,567 (93.6%)	281,553,948 (92.1%)	10.6
Total	$272,062,035 (100%)	$305,784,326 (100%)	12.4

Source: U.S. Department of Education, National Center for Education Statistics, Vocational Education Data System.

Direct instructional costs also rose on a per-pupil basis, from $545 in 1979-80 to $596 in 1980-81. During the latter period, the per-pupil costs of technical education for the more occupationally specific programs (as opposed to more generalized technical education that is offered primarily at the secondary level) were $655. This is 75 percent higher than the per-pupil costs for all postsecondary and adult students, thus confirming the fact that highly specialized technical education programs are the most expensive vocational education programs to operate.

Three important developments affected technical education in 1980-81, and will continue to do so in the foreseeable future:

- The continued rapid development of mini-computers and microprocessors is revolutionizing many jobs and creating whole new "high technology" industries. For example, computerized word processing and automated offices are already realities. Reprogrammable robots increasingly are used to automate industries, with 40,000 to 50,000 expected to be installed during the next decade. Computers are assisting in product design and manufacture in many more industries. To date, the training of technicians (or the retraining of existing ones) to meet these needs is falling far short of demand. Technical educators discussed these developments at both the 1980 and 1981 National Technical Education Conferences, and these findings have been reinforced by recent field contacts with State and local administrators of vocational education.

- While the problem of preparing new kinds of technicians is pressing, there is a parallel problem in training sufficient numbers of more conventional technicians. The Under Secretary of Defense, for example, expressed concern last year that there would not be enough skilled personnel to deliver planned increases in defense research and development and procurement during the next 5 years. Many more electrical/electronic technicians and computer specialists, among others, were needed during 1980-81, and still more will be required for existing technologies and normal production in future years.

- While skill shortages received national attention, there was also a clearly perceived need for closer collaboration among technical education administrators and the future employers of their students. First, because of the rapidity of technological change, employers are the only ones who fully know the current performance specifications for technical occupations; and second, because of the complexity and resulting cost of high-technology equipment, extensive recourse must be made to cooperative modes of instruction (combining in-school and on-site instructional segments) and to the acquisition of new equipment from private business and industry. In any event, it became apparent in 1980-81 that employers and their workers must be intimately involved in all phases of technical education programs, starting with planning.

Energy Education

Energy education is discussed separately in this report because it is authorized separately by Section 123 of the Vocational Education Act. However, in order for the following data and remarks to be interpreted correctly, a preliminary clarification is necessary.

In the original U.S. Senate version of the 1976 VEA Amendments, energy education programs conducted in postsecondary institutions, and only in the solar energy and coal-mining instructional areas, were to have had a separate funding authorization; other energy education programs were to be funded under the overall basic grant. In the final Act, this special funding no longer existed, but the postsecondary solar energy and coal-mining programs remained isolated from the others in a separate section of the Act.

In conformance with the Act, VEDS collects expenditure data for these two "special" programs; it is these data which appear in Table 17. The bulk of energy-related initiatives in vocational education (e.g., application of energy-saving technology in automotive mechanics or agriculture, to name but two of many) are subsumed in other categories since they can be supported under either legislative purpose. The enrollment data for the two programs covered under Section 123 are not available through VEDS this year. Outlays for the Section 123 energy education programs, for the two most recent years, are shown in Table 17.

Table 17. — Total outlays and percent change for Section 123 energy education programs, by source of funds: 50 States, D.C., and Puerto Rico, 1979-80 and 1980-81

Source of funds	1979-80	1980-81	Percent change
Federal (VEA)	$940,451 (61.3%)	$924,494 (63.3%)	- 1.7
Nonfederal	592,489 (38.7%)	536,253 (36.7%)	- 9.5
Total	$1,532,940 (100%)	$1,460,747 (100%)	- 4.7

Source: U.S. Department of Education, National Center for Education Statistics.

There is some question regarding the validity of the preceding data. In 1979-80, 19 States reported Section 123 energy education outlays; in 1980-81, 17 States reported such outlays. The data for both years include one large State that reports minimum data on State and local outlays. The effect of a large State's possibly unrepresentative data in a small program such as energy education could drastically skew the overall tabulation.

Although useful data on energy education programs is at best scanty, observations on the 1980-81 status of these programs from OVAE field reports indicate the following:

- The first cohort of an entirely new kind of technician — energy conservation and use technician — was graduated from new preparatory programs in four States as a result of a U.S. Department of Education energy-related research contract and programmatic leadership.

- Employer demand for petroleum technicians resulted in expanded enrollments and very favorable placements for graduates because of new technologies now being employed in the petroleum industry.

- Moderately increased substitution of coal for fuel oil in power generating plants, together with an increased demand for coal for export, increased enrollment and employment of coal mining technicians.

While individual States may present exceptions, external developments have somewhat reduced the urgency that once characterized the energy education effort. The worldwide recession, together with the effects of energy conservation, caused a petroleum glut in oil-exporting Nations. Temporarily at least, these new conditions have caused a slackening of interest in both governmental and business quarters in alternative energy sources such as solar and coal.

Cooperative Education

Cooperative vocational education is a plan of instruction that allows students to work to gain saleable skills and income while they continue in school to prepare for full-time employment. Students apply skills they have learned in classrooms and laboratories in a realistic setting, and acquire additional knowledge and proficiency not available from classroom settings. Cooperative vocational education is used at the secondary, postsecondary, and adult levels, and in all occupational programs.

Typically, a cooperative vocational education student spends 2 to 3 hours per day completing regular education requirements, 2 hours per day in vocational class, and 2 to 3 hours daily in a work environment outside the school. Occupations are diverse and vary from one geographical area to another. Individual programs are necessarily tailored to fit each student and local job market.

In 1980-81, there were 622,185 students enrolled in cooperative vocational education, 518,169 at the secondary level and 104,016 in postsecondary and adult programs. This is a reported increase of over 26,500 students from 1979-80, all at the postsecondary and adult levels and mostly in the regionally accredited category (public 2-year and 4-year colleges). Over 78 percent of cooperative vocational education enrollments were in marketing and distribution, trade and industrial, and business education programs.

Outlays for cooperative vocational education totaled over $267 million in 1980-81, of which only 8.6 percent ($23 million) was Federal funds. States spent $10.62 for every $1.00 of Federal funds. The 1980-81 total outlay is a 136 percent increase over the $113 million total reported in 1979-80, although the Federal percentage in 1979-80 was about the same, 9.6 percent, as was the ratio of State and local to Federal $9.41 to $1.00. This increase in total outlays is almost entirely accounted for by increases in the following States: Illinois, Missouri, and Ohio. Preliminary analysis indicates that most of these increases may be a function of reporting procedures rather than actual funding increases.

During the 1980-81 school year, cooperative education students earned over $2.5 billion in wages. Federal, State, and FICA taxes were deducted from students' earnings. Not only do students enjoy the obvious benefits from their wages, but local businesses benefit by selling goods and services, and State and local governments receive increased tax revenues.

Cooperative vocational education programs aid students in making the transition from school to work by encouraging more positive self-concepts, attitudes toward school and employment, and interpersonal skills. Other benefits to students include enhanced employability and earning power, and less unemployment. Employers benefit from cooperative vocational education through the ability of these programs to adapt to labor market needs; through reduced recruitment, training, and turnover problems; and through the satisfaction gained from helping to educate students. These are the findings of several research studies including Cooperative Education by the National Center for Research in Vocational Education, January 1983.

Major influences shaping public vocational education in the 1980's will move it toward increased collaboration with employers. According to a study by the National Center for Research in Vocational Education entitled An Examination of the Desirability of Expanding Cooperative-type Work Experience Efforts, employers are increasingly turning to vocational education to relieve their workforce shortages or to retrain workers to adapt to new technology. Traditionally, a close relationship has existed between vocational education and the business and industrial community; with today's pressing priorities, even stronger collaboration will be necessary.

Apprenticeship

Apprenticeship is a structured system of training combining a formal curriculum, on-the-job training, and other job-related instruction which leads to careers in skilled occupations. Apprentices receive 2,000 hours of supervised on-the-job training and attend 144 hours of related instruction for every year of their program. The length of an apprenticeship training program can range from 1 year (2,000 hours) to 5 years (10,000 hours) depending on the occupation that the apprentice chooses.

The Department of Labor, Bureau of Apprenticeship and Training (BAT) recognizes approximately 450 occupations as apprenticeable. State apprenticeship agencies, however, recognized and reported 723 occupations in which apprentices were registered. According to data from the State-National Apprenticeship Reporting System (SNAPS), 323,866 apprentices are registered in the country. BAT estimates that 60 percent of these apprentices are in the construction trades, mostly in unions. It is also estimated that there are another 430,000 apprentices who are unregistered or non-union.

Vocational education has responsibility to assist in providing related technical and supplemental instructions for these apprentices. In 1980-81, vocational education reported serving 181,440 students in apprenticeship programs. However, because the Vocational Education Data System only reports on registered apprentices, the number of unregistered students receiving related instruction through the vocational education system is unknown.

Related instruction for apprentices is provided through the facilities and resources of local vocational education agencies, and this instruction is coordinated with the apprentices' on-the-job work experience. In addition, the related instruction program may focus on specific manipulative and tool skills. The introduction of new materials and processes in the occupations is also included when recommended by the State and local joint apprenticeship committee.

A recent collaborative effort between vocational education and apprenticeship was the New Initiatives in Apprenticeship Programs. Several Youth Apprenticeship Projects were funded to assess and ease students' transition from school to work.

The projects implemented linkages between local school systems and employers, developed apprenticeship job slots with employers, coordinated registration activities with BAT and/or State Apprenticeship Councils, and placed high school seniors in part-time aprenticeship positions.

The major goals of the Youth Apprenticeship Projects were as follows:

- o to demonstrate the feasibility of in-school apprenticeship;
- o to promote the use of registered apprenticeship by employers as a system of training in the skilled trades; and
- o to ease the school-to-work transitions of youth.

The results of the projects indicated the following:

- o students who participated in the projects reported higher levels of job satisfaction in their current or most recent employment than comparison students;
- o student participants tended to be more occupationally stable than comparison students; and
- o student apprentices who stayed with their apprenticeships after high school tended to perform better on the job than comparison students.

These projects were so successful that many States continued the projects with State and local funds after Federal funding ended.

The Bureau of Labor Statistics and other labor force data sources estimate that the number of jobs in the skilled trades will increase approximately 20 percent by 1990. Through this growth and normal attrition, almost 4 million skilled workers will be needed by 1990. In addition, technological changes are restructuring jobs and creating new occupations. Vocational education is being called upon to respond to all these needs by supporting, promoting, expanding, and collaborating with the apprenticeship and training program to produce highly skilled craftspersons needed for the future.

Other Programs

Although the main purpose of vocational education is to prepare persons for employment, vocational education has always had a wider scope than just employment training. For many years vocational education has been concerned with the overall quality of American family life, the introduction of young students into the world of work, and the needs of both youth and adults for professional guidance in selecting careers. Without these other kinds of programs, vocational education would be little more than skill training tacked onto regular academic education. This section discusses these programs.

Consumer and Homemaking Education

Federal funds for consumer and homemaking education are authorized and allocated to the 57 States and Territories on a formula grant basis as a specific category in vocational education solely for 1) educational programs, and 2) ancillary services and activities which assist in preparing males and females of all educational levels for the occupation of homemaking. Today's consumer and homemaking education programs serve youth and adults, males and females with varying abilities, and special populations such as the aged, school-age parents, single parents, handicapped, disadvantaged and low-income persons, and persons in correctional institutions.

The occupation of homemaking requires knowledge and skills for achieving the optimum quality of life for individuals and families. The essential skills of homemaking include: providing for personal and family development at the various stages of the life cycle; establishing family and personal relationships; providing nutritious food for individuals and family members; caring and nurturing of children; caring and providing for personal and family clothing; selecting and maintaining housing and living environments for individuals and others; and managing resources including finances, energy, and time.

Attitudes, values, management of resources, and interpersonal relationships, including the interrelatedness of home and work, are major concepts that unify the instructional and educational programs in consumer and homemaking education. The content of these programs must include all of the following: consumer education; family living and parenthood education; food and nutrition; clothing and textiles; child growth and development; home management and management of resources; and housing, equipment, and home furnishings. These emphases within consumer and homemaking education address many national priorities, as well as current and emerging concerns such as the following:

- o family economics and consumer behavior — Today's homemaker and consumer must learn to manage money more carefully than ever before. In learning to live and cope with a changing economy, consumers need to become more knowledgeable about spending, saving, borrowing, and investing. Consumer and homemaking education programs are expanding instruction in economics and related economic principles to meet the growing needs of consumers.

- o interrelatedness of home and work -- The relationship between family and work has become more and more significant. The quality a worker's home life has proved to be a far-reaching and important influence on optimum productivity on the job. Nutritious meals, family management of resources, a well-organized home, and good interpersonal relationships among individual and family members not only affects the quality of family life, but also performance on the job. When family life is enhanced through competence in the occupation of homemaking, working family members are able to be more productive on the job and feel satisfied with their work. These findings were presented by vocational home economics educators in Congressional testimony in April 1982 and March 1983 for the reauthorization of vocational education.

Total enrollment in consumer and homemaking education in 1980-81 was 3,189,248, with over 1.3 million from economically depressed areas. This is a total decrease of over 196,000 from 1979-80. However, enrollments from economically depressed areas increased by over 33,000 from 1979-80. Males accounted for 22.6 percent of the total consumer and homemaking education enrollment in 1980-81 compared to 22 percent in 1979-80 and 18.4 percent in 1976-77.

Each State attempts to meet the unique needs of the disadvantaged and minority population by offering programs in locations convenient for the students such as neighborhood centers, Indian reservations, senior citizen centers, churches, homes, and migrants' camps. Mobile units in some school districts are equipped as classrooms with available instructional materials. Home economics teachers drive the units or the units are moved from one location to another in order to help inner-city families, isolated rural families, migrant groups, and others who cannot come to a center.

In some States, parents are enrolled in parent education classes that parallel a daycare center for their children. These programs reach many families on welfare. These families ask for help on many aspects of everyday living including nutrition, low cost meals, use of food stamps, consumer education, housekeeping, child care, and ways to alter clothing.

Federal and State and local outlays for consumer and homemaking education totaled nearly $533.6 million in 1980-81, an increase of $32.5 million over 1979-80. Federal outlays increased nearly $2 million, while State and local outlays increased over $30.5 million from 1979-80.

Industrial Arts Education

Industrial arts education provides the opportunity for students to develop basic skills in the safe and proper use of common industrial tools and machines, using materials and processes which are common to many industries and technologies. The curricula for industrial arts have been categorized into four occupational clusters: construction, manufacturing, communications, and transportation. These four clusters may include specific occupational areas such as: electricity, electronics, plastics, printing, graphic arts, drafting, woodworking, sheet-metal, machine metal-working, foundry, welding, ceramics, and small gasoline engines.

Industrial arts prepares students to live in a technically complex society and to become technologically literate by providing exploratory experiences in the above occupational areas. These exploratory experiences also provide the basis upon which a student may make knowledgeable career choices. Industrial arts has a direct relationship to most of the occupational areas in trade and industrial and technical education.

Approximately 7,000,000 students were enrolled in one or more industrial arts courses during school year 1980-81. Of this total, 1,899,779 students were enrolled in courses which were included under the State plans for vocational education. This is a 23.6 percent increase from the 1979-80 enrollment of 1,536,667. This increase is most likely due to States including more prevocational industrial arts courses under the State plans,

which indicates that the industrial arts field is becoming a more important component of the labor force delivery system.

Under the Vocational Education Act, Federal outlays totaled $5,767,449 and State and local outlays totaled $177,752,721. Federal outlays increased slightly and State and local outlays increased by more than $10 million. These funds were used to provide exploratory experiences in different occupations, expand career guidance services, improve the quality of instruction, and develop competency-based programs.

The Standards for Industrial Arts Programs, a special project which was funded and supported by the U.S. Department of Education through the Office of Vocational and Adult Education, was completed in 1981. The Standards project was responsible for formulating descriptive statements with which States and localities could assess their industrial arts programs. The Standards project also produced three guides to assist the industrial arts profession in emphasizing the American Industrial Arts Student Association (AIASA), sex equity, and the needs of special populations. The American Industrial Arts Association has printed and distributed 10,000 copies of the Standards booklets, and 40 States have held inservice workshops to train personnel in the use and implementation of the Standards. In addition, the American Industrial Arts Student Association printed and distributed 3,200 copies of the AIASA guide for industrial arts programs. This is an excellent example of using Federal funds as a catalyst for program improvement, after which the profession assumes the responsibility.

Work Experience and Career Exploration Program

Work experience and career exploration program (WECEP) serves 14 and 15-year-old students who are not responding to a regular school program. The purposes of WECEP are to orient students to the world of work; motivate students to continue their high school education; and prepare them to be productive, contributing members of their communities.

WECEP is authorized by the Fair Labor Standards Act, Child Labor Regulation Number 3, and funded by the Vocational Education Act, Title II of Public Law 94-482. The program is a coordinated effort between the U.S. Department of Labor, Wage and Hour Division, and the U.S. Department of Education, Office of Vocational and Adult Education, and is administrated by the States.

The WECEP concept began in 1969 as a 3-year experimental work experience opportunity program in 13 States. WECEP became a program option for the States in 1975, after Federal and State agencies completed research on the program. By 1982, 20 States with an estimated 40,000 students were participating.

Results of evaluation studies such as Changes in Grades, Attendance, and Behavior of Potential School Leavers in the Wisconsin Work Experience and Career Exploration Program, 1978-79, Kathleen A. Paris, editor, indicated many positive effects on students' scholastic performance, attendance, and behavior. Students who participated in WECEP tended to remain in school

longer, have fewer disciplinary problems, have better attendance, and have improved grades.

Guidance, Counseling, and Placement

Guidance and counseling is a mandated supportive service under the Vocational Education Act. Placement services are optional and may be funded only when there is inadequate funding of similar services, or the services are inadequate to meet the needs. Guidance, counseling, and placement services are intended to improve a State's vocational education program by providing assistance directly to students to help them realistically choose and obtain their future occupations.

Significant efforts continued in 1982 to achieve more effective guidance, counseling, placement, and related career development services. Multi-organizational collaboration and private sector partnerships were initiated to improve planning, programming, and delivery of these services. These collaborations improved guidance programs by making them more accessible and more effective in meeting the needs of persons of all ages in all communities. These were the findings of an evaluation monograph, "Community Collaboration for Improving Career Guidance Programs: Preliminary Findings Suggest It Can Work," resulting from a 1981 Department of Education project, "Guidance Team Training with Emphasis on Guidance for Vocations and Learners With Special Needs."

There are a variety of guidance delivery practices. Counseling activities include group and individual counseling, videotaped models, and structured interaction. Classroom activities include use of specific guidance curriculum, curriculum infusion (of guidance content into other subject matter areas), basic skills instruction, specific modules, programmed instruction, career simulations, and occupational briefs. Several computer-based systems are also used. Other activities include jobs and educational placement, seminars and workshops, work experience, cooperative education, and various career exploration techniques. Guidance personnel include not only counselors and other education personnel, but may also include members of the wider private and public community, particularly business and industry, as well as parents and/or other students.

Guidance and counseling programs were strengthened by placing emphasis not only on individual education or career goals, but on developing the related thinking and reasoning skills of individuals. Guidance and counseling programs encouraged people to develop higher level skills such as analysis, evaluation, critical thinking, problem-solving, organization and reference, synthesis, inference, and estimation of consequences. These skills were related to each person's own life and work and the planning, decisionmaking, and self-management that every person must do.

The Vocational Education Data System collects no information on actual numbers of students who receive guidance and counseling services. However, all States expended funds for this purpose in school year 1980-81. During this school year, $253 million was spent for vocational guidance and counseling services, $1 million less than during school year 1979-80. The Federal share of this total outlay increased from 16 percent in 1979-80 to 17.7 percent in 1980-81.

Twelve States reported increased outlays for placement services, which totaled about $4 million in 1980-81. All of the $1.1 million increase was nonfederal funds, which now comprise 90.9 percent of total outlays.

At the Federal level, one of the projects of national significance is "Community Collaborative Career Guidance." This project builds on several preceding projects on career guidance, and its ultimate aim is to help guide and enhance the career development of individuals and groups.

Though corrective, remedial, and "crisis" activities are included, the project emphasizes preventive and developmental guidance programs to respond to the comprehensive needs of youth and adults. This project recognizes that career development is an essential complement to economic development. Student life and work life interact significantly with each other, and with other major life roles and needs.

One of the persistent questions asked about career guidance activities is, "How effective are they?" The National Center for Research in Vocational Education published a report in January 1983 entitled "Enhancing Career Development: Recommendations for Action, A Review of Empirical Studies of the Effects of Career Guidance." The report found that career guidance influenced the career development and adjustment of individuals in five broad categories:

- Improved school involvement and performance - the majority of 41 studies reported gains in student behaviors.
- Personal and interpersonal work skills - the majority of 30 studies reported positive effects.
- Preparation for careers - 12 of 14 studies reported positive gains.
- Career planning skills - a positive outcome was found in 27 of 34 studies.
- Career awareness and exploration - positive results were shown by 31 of 41 studies.

The report concluded that career guidance interventions achieve their intended objectives if guidance personnel are given the opportunity to provide structured guidance interventions in a systematic, development sequence. Career guidance is successful in assisting individuals from a wide range of subpopulations and in various settings, such as in correctional institutions, vocational training centers, community colleges, and rehabilitation centers.

Target Populations Programs

Much of the current Vocational Education Act focuses on target or priority populations that the system as a whole must include, while providing services to all populations. The previous two sections described the basic programs that serve all populations. These basic programs are adjusted for

special groups of students by adding supplementary services, by modifying facilities and equipment, or by changing the curriculum content.

This section describes several target programs such as those for Indians and Appalachia, and reports on how vocational education is serving special kinds of students. The use of the term "programs" regarding these students does not imply the existence of a third major type of vocational program completely separate from those already described.

Handicapped Students

A focus of the Vocational Education Act is to provide vocational education opportunities to more handicapped persons, and to provide the additional supportive services needed for them to succeed in vocational education. Vocational education for the handicapped is a major link in the total chain of education and rehabilitative services so necessary in making the difference between a life of dependence and a life of independence for handicapped individuals. Students who are handicapped must have employment skills if they are to compete in the job market. Vocational education has accepted a larger role each year for teaching handicapped persons the specific job skills that will help them become employable.

Each handicapped person completing a vocational education program and becoming employed becomes an independent contributor to society, which includes paying taxes. In addition, it is estimated that one person's removal from dependency saves $6,000 to $10,000 annually in supplemental income support.

During school year 1980-81, vocational education served 555,961 handicapped students, who comprised 3.3 percent of the total vocational education enrollment. This is a 96 percent increase over the number of handicapped served in the 1975-76 school year, and 38.8 percent increase over 1979-80. At the secondary level, vocational education served 437,397 students, who comprised 4.3 percent of secondary vocational education enrollments.

According to the National Center for Education Statistics, public school enrollment in grades 9-12 in 1980-81 totaled 13,317,000. It is estimated that handicapped students comprise 9.5 percent of this group, or 1,265,115 students. In 1980-81, vocational education served 34.6 percent (437,397) of the total number of handicapped students in grades 9-12.

The enrollment of handicapped students in each of the vocational education programs increased substantially during the 1980-81 school year. The largest increase was in business education followed by industrial arts, and the smallest increase was in consumer and homemaking education. These increases indicate that handicapped students are gaining access to the mainstream of vocational education. According to State reports, 74.7 percent of the handicapped students whose placement was reported were served in mainstream vocational education programs.

A profile, by handicapping condition, in the VEDS data indicates that the two largest populations served are mentally retarded and learning disabled, each comprising approximately 33 percent of handicapped enrollment. The

next largest group is multi-handicapped which is just under 10 percent of the total handicapped enrollment.

The outlays for the additional services required by the handicapped increased $30 million from 1979-80 to $225,290,457 in 1980-81. These outlays included $68,448,286 Federal funds and $156,842,171 nonfederal funds. Federal funds comprised 30.4 percent of total outlays down from 32.3 percent in 1979-80. The nonfederal to Federal ratio increased from $2.10 to $1.00 in 1979-80, to $2.29 to $1.00 in 1980-81.

The increasing access of handicapped students to vocational education is evidenced by both their increased overall enrollment and their increased placement in mainstream programs with their nonhandicapped peers. Two basic reasons for this improved access are the additional funds made available because of the State and local matching requirement and the major programming thrust to provide supportive services to students in mainstream vocational education programs.

Disadvantaged Students

Providing the additional services that disadvantaged youth and adults need to succeed in vocational education is another important focus of the current Vocational Education Act. Disadvantaged persons as defined by the Act are those persons who have academic or economic handicaps and who require special services and assistance to succeed in vocational education programs. Academically disadvantaged persons who require additional vocational education services often lack reading and writing skills, mathematical skills, or perform below grade level in those skills. Economically disadvantaged persons may come from a family whose income is at or below the national poverty level; be unemployed or have parents who are unemployed; be a recipient of public assistance; or be institutionalized or under State guardianship.

These academically or economically disadvantaged secondary students include potential dropouts, persons lacking in basic educational skills, and persons who for one reason or another are alienated from the educational system. Without vocational education and supportive services, these students leave school without employable skills and thus add to the present rate of youth unemployment (22.2 percent for white teenagers and 46.1 percent for black teens, January 1983, Department of Labor figures).

Postsecondary and adult programs for the disadvantaged often serve unemployed out-of-school youth and adults who need job skills, or underemployed persons who need to improve their skills for better jobs.

The number of disadvantaged vocational education students receiving supportive services in 1980-81 increased to 2,567,538. This is a 37 percent increase over 1975-76, and 25.9 percent over 1979-80. These students now comprise slightly more than 15 percent of the total vocational education enrollment, up from 12 percent in 1976.

Outlays for special services for disadvantaged vocational education students have increased over the years. Between fiscal years 1976-81, total outlays increased by 81.8 percent to $518,190,629. Federal outlays

now comprise 25.8 percent ($133.9 million) of the total, and the ratio of nonfederal to Federal outlays is $2.87 to $1.00.

Limited English Proficient Students A portion of the national priority funds designated for the disadvantaged must be used to provide additional services to vocational education students who have limited proficiency in English. Learning job skills is exceedingly difficult when the instruction is in a language that is not one's primary language. This is a problem faced by many youth and adults in our country today.

National priority funds are helping these limited English proficient persons improve their chances for success in vocational education by providing supportive services such as interpreters, instructional material in their native language, and bilingual vocational education teachers. In areas of high concentration of persons with the same primary language, a total vocational education class may be taught in that language. This type of supportive service is provided so the individuals can learn a job skill while they also learn English.

In 1980-81, 171,154 persons with limited English proficiency received special vocational services to help them obtain a job skill. This was an increase of 97.1 percent over the number of limited English proficient students served in 1977-78. During this same time period, 1977-81, the total funding for additional services to these students increased 40.8 percent to $26,775,067, of which Federal funds comprised 26.3 percent.

Special Programs for the Disadvantaged In addition to serving disadvantaged students with national priority funds, the Vocational Education Act also provides special programs for the disadvantaged under Section 140. These funds are used to provide special programs for the disadvantaged in areas of high concentrations of youth unemployment and school dropouts. Nearly 140,000 disadvantagd students were served with $20,698,678 Federal funds and $11,836,790 State and local funds. Although these Federal funds do not need to be matched, State and local funds exceeded 36 percent of the total outlays in 1980-81.

Funds for the disadvantaged have made it possible for local education agencies to provide the additional services students need to succeed in vocational education and to be employed upon program completion.

Postsecondary and Adult Programs

The Vocational Education Act (VEA) contains "national priority programs" for the disadvantaged and handicapped target populations, and for postsecondary and adult students. The statutory terms "postsecondary and adult" have caused confusion in two respects: first, as applied to students, an adult may be enrolled in a postsecondary program; and second, as applied to instructional content, many adult programs (i.e., programs for adults) are in fact programs whose content is generally classified as secondary. This is not only true for all of the occupationally specific programs, but also for some of the non-occupationally specific ones such as consumer and homemaking education and industrial arts.

In an attempt to clear up this confusion, the VEA defined "postsecondary" students as those, of any age, who are enrolled in programs leading to an associate or other degree below the baccalaureate. "Adult" students were defined as those pursuing non-degree vocational programs, but not enrolled in an institution as a secondary student.

The purpose of the "postsecondary and adult" provision in the VEA is to encourage States to provide programs: 1) to prepare technicians and specialists as support personnel for professionals and managers; 2) to prepare other skilled workers; and 3) to upgrade and/or update an individual's education, and generally improve current skills or teach new job skills. States are also encouraged to emphasize vocational guidance, particularly for adults who are changing careers.

Vocational education for postsecondary students, as they are defined by the VEA, is offered at nearly 1,800 public and private, 2-year and 4-year higher education institutions. Vocational education for adult students, as they are defined by the VEA, is offered at all types of institutions including those already mentioned, and more than 10,000 regional vocational centers, vocational high schools, and comprehensive high schools, as well as over 6,500 proprietary and other private schools, 80 correspondence schools, and 500 correctional facilities.

Private institutions provide an important training resource for postsecondary and adult students. Because private institutions are not generally funded under the VEA, the Vocational Education Data System (VEDS) does not collect data on these institutions, except in those relatively few instances where such institutions operate programs that are included in State plans under the VEA. Therefore, all VEDS data on postsecondary and adult students represent a serious underestimate (by perhaps as much as one-third) of the actual numbers of students at these levels.

In the data presented below, VEDS does not distinguish between "postsecondary" and "adult" students in any of its tabulations. This is partly because many institutions conduct both degree and non-degree programs, and many students attend intermittently, or switch back and forth between the two program types. However, the following definitions apply to the enrollment data collection:

- o "regionally accredited institutions" predominantly offer programs to both postsecondary and adult students in 2-year community or junior colleges, 2-year and 4-year technical institutes, 4-year colleges, and universities. The majority of postsecondary students (2-year degree-seekers) attend these institutions.

- o "State approved institutions" offer programs almost exclusively to adult students in area vocational schools or centers. Many of those students seeking 1-year or 2-year certificates would be counted in this category.

- o "Other postsecondary institutions" predominantly offer programs to adult students attending off-hour programs, such as in vocational and comprehensive high schools.

Enrollment of postsecondary and adult students grew rapidly in the first half of the 1970's (from 4,370,496 in 1971-72 to 6,272,375 in 1975-76), but has been at a plateau since that time, reaching a peak of 6,724,189 in 1978-79. Coincidentally, this was the last year in which students from the Outlying Areas were counted; however, this alone would not account for the ensuing slight decreases. Preliminary figures for 1980-81 indicate an enrollment of 6,395,579.

While there has not been any significant change in overall enrollment during the past 3 years, the composition of that enrollment has undergone some shifts as is shown in Table 18.

Table 18. -- Postsecondary and adult enrollment by program, 50 States and D.C., 1978-79 to 1980-81

Program	1978-79* enrollment	Percent	1979-80 enrollment	Percent	1980-81 enrollment	Percent
Agriculture	271,854	4.0	221,282	3.5	179,115	2.8
Distribution	559,137	8.3	564,705	8.9	551,477	8.6
Health	670,155	10.0	705,624	11.1	757,316	11.8
Consumer and homemaking	897,940	13.4	763,175	12.0	639,657	10.0
Occupational home economics	220,172	3.3	190,089	3.0	196,939	3.1
Business education	1,396,190	20.8	1,427,896	22.4	1,533,678	24.0
Technical	444,580	6.6	467,155	7.3	472,005	7.4
Trade and industrial	1,966,122	29.2	1,799,757	28.2	1,877,493	29.3
Industrial arts	17,950	0.2	19,243	0.3	5,551	0.1
Other	280,089	4.2	211,922	3.3	182,348	2.9
Total	6,742,189	100	6,370,848	100	6,395,579	100

* Includes 37,875 enrollments from the Outlying Areas.

Source: U.S. Department of Education, National Center for Education Statistics.

Although VEDS reports on only a few student characteristics, other data sources indicate the unusually broad spectrum of students enrolled in postsecondary and adult education. For example, if the proportions of recent years hold true, almost a fourth of all students in public noncollegiate postsecondary institutions are over 30 years old; almost a

fourth of them report some prior college enrollment; and over 5 percent have already received either associate or baccalaureate degrees. Given the occupational shifts now being caused by structural changes in the Nation's economy, enrollments of these kinds of students can be expected to increase; therefore, the demands on postsecondary and adult education will become significantly heavier.

The 1980-81 school year also saw a major change in the funding pattern for postsecondary and adult education. During the previous 3 years, total outlays grew by roughly $600 million per year, almost all due to increases in State and local funding. In 1980-81, however, while Federal funds increased by more than $34 million (a 25 percent increase over the previous year), State and local support decreased by more than $86 million (from $2,630,974,935 in 1979-80 to $2,544,634,375 in 1980-81). As a result, total outlays dropped for the first time from $2,769,097,537 in 1979-80 to $2,717,437,801 in 1980-81.

As the educational and skill requirements of the workforce increase, postsecondary and adult vocational education will be called upon to train technicians in the more advanced technologies that will help improve the Nation's economy, and retrain adult workers who have lost their jobs because of structural economic shifts and rapid technological change.

Displaced Homemakers

Displaced homemakers are persons who are widowed, divorced, separated, abandoned, or married to disabled spouses. They have little or no job training or work experience, and are usually faced with a sudden need to support themselves and their families. They are generally forced into the labor market with few skills and very little self-confidence. In 1976, the Vocational Education Amendments mandated that States use funds, in amounts deemed necessary by the States, to serve displaced homemakers.

According to a recent report prepared by the Displaced Homemakers Network, Inc. in 1981 and submitted to the Women's Bureau, U.S. Department of Labor, the total number of displaced homemakers nationwide is conservatively estimated at between 5 and 7 million persons. Most of these displaced homemakers are women who maintain their families and must work for economic reasons. These women are concentrated in the lower-paid, less-skilled, low status traditional jobs. One third (33 percent) are employed as clerical workers, and 25 percent as service workers.

Many vocational education displaced homemaker projects are designed specifically to increase female enrollments in nontraditional occupations. Training is offered at area vocational and technical centers, vocational high schools, universities, and community colleges. Project Entree at Daytona Beach Community College in Florida, for example, serves displaced homemakers by enrolling them in automotive, electronics, welding, machine shop, small gas engine, air conditioning, refrigeration, and concrete technology programs. New York City Technical College also funds a program of nontraditional vocational training for displaced homemakers in pest control, building superintendent, machinist, and heating and air conditioning. One unique factor of New York's program is the use of women instructors in these training programs.

In addition to training in traditional and nontraditional vocational skills, displaced homemaker programs must also provide some services which are critical for effective programs. Included among these services are: individual personal counseling, life skills development, pre-employment skills preparation, job development and placement, and career and educational counseling. Through these services, displaced homemakers receive opportunities to advance their self-esteem which is necessary if they are to make a good impression in a job interview and perform once they are hired. In fact, displaced homemakers who develop specific occupational skills without receiving these supportive services are often unsuccessful in obtaining and retaining employment, according to the Displaced Homemakers Network, Inc. in their Displaced Homemaker Services Nationwide State-of-the-Art Report, October 1982.

Some federally funded vocational education programs coordinate their support services and activities with community organizations and local business and industry. The programs provide on-the-job training, employment counseling, and other related services. The programs and activities also promote economic development in the form of small business ventures, create jobs in the community, and raise funds to support displaced homemaker programs. Programs are often found in women's centers, YWCA's, and at community-based sites. Project Re-Entry at Moberly Junior College District in Missouri received cooperative funding from the Private Industry Council to place displaced homemakers in on-the-job training sites while they attended job related classes at the college. The Project staff also coordinated activities for a rural widow-to-widow outreach and counseling program which was targeted specifically for the aged, rural, and widowed population who met the displaced homemaker eligibility criteria.

There are many features which make displaced homemaker programs unique. The programs assist participants in reassembling their lives which enhances the students' chances of success. Another feature important to the success of many programs is the longstanding and special use of volunteers. Programs often operate on small budgets with equally small staffs, and volunteers serve as speakers on behalf of the programs, peer counselors, typists and office workers, and even as advocates for State displaced homemaker bills.

The Displaced Homemakers Network, Inc. conducted a survey of programs and compared funding sources for 1981 and 1982. Their survey revealed that of the programs for which funding information could be obtained, 46 percent received vocational education funds through the State plans in 1982 compared to 17 percent in 1981. A further review of the data supplied by the sample shows that:

- 43 percent of the clients were placed directly in jobs;
- 24 percent entered vocational education programs; and
- 17 percent sought CETA skill training.

Total vocational education outlays for displaced homemakers and other special groups have increased over the last few fiscal years. A total of $5,583,700 was spent in fiscal year 1981 compared to $4,681,404 and

$3,170,742 in fiscal years 1980 and 1979, respectively. Although both Federal and nonfederal outlays increased, there was a slight decrease in the percent of Federal funds spent by the States. Data indicate that in school year 1980-81, 65.5 percent of the total funds spent were Federal dollars as compared to 67 percent in 1980. The nonfederal to Federal ratio increased slightly from 0.49:1 in 1979-80 to 0.53:1 in 1980-81.

Enrollments in displaced homemaker programs continue to increase. Over 42,000 persons were served in vocational programs for displaced homemakers in 1979-80. Data available from the National Center for Education Statistics indicate that 67,593 displaced homemakers received training and services in 1980-81. States have been able to serve more displaced homemakers by using funds to provide training slots, and using volunteers or community agencies to provide support services.

Vocational education is meeting its responsibility to provide programs for displaced homemakers. Colleges and other community agencies are re-educating and retraining displaced homemakers for jobs and careers with growth potential. Women who spent years as full-time homemakers are turning from housework to paid work, upgrading skills and learning new skills, and working in many different occupations. Despite this success, there are still millions of displaced homemakers who need and want vocational education and training, but for whom there are no training slots. These were the findings of "Project Second Look" funded by the Department of Education, December 1981.

Vocational Work-Study

Vocational education's work-study programs address the national problem of school dropouts, insofar as this problem is caused by students being forced to leave school because of the need to support self or family. The program's purpose is simply economic support, although it may be tied in with the student's curriculum (see example, below). In this respect, it differs from the "orientation to the world of work" purpose of work-experience programs, and from the tightly controlled instructional purposes of cooperative vocational education.

Other unique features are that work-study employers can only be local educational agencies or other public or not-for-profit private agencies and institutions; eligible students must be between 15 and 21 years old; and work may not exceed 20 hours per week.

During the 1980-81 school year, 37,412 full-time students were enrolled in vocational education's work-study programs. This is virtually the same enrollment as in 1979-80. Federal funds under the Act expended for work-study students declined from $7,226,501 in 1979-80 to $6,776,944 in 1980-81. Similarly, State and local outlays decreased from $5,759,421 in 1979-80 to $5,551,296 in 1980-81.

Recently, North Carolina examined its vocational education work-study program. This study identified several education-related benefits provided to work-study students: 1) work-study funds were, as mandated by the Act, directed to students who needed job earnings in order to remain in a vocational education program; 2) the program provided work experience and

skills in a job related to the student's program of study (although, as previously noted, this is not mandated by the Act); 3) students who had not yet developed the general skills and attitudes required to succeed in private-sector jobs acquired many of these in work-study jobs; and 4) the program helped prevent students from dropping out of school. Because of these benefits and the softness of Federal support (i.e., the program has not had special, categorical funding since the Act was amended in 1976), the North Carolina State Board of Education and the State Board of Community Colleges have begun searching for alternatives to existing work-study program funding in case Federal funds are directed elsewhere.

Bilingual Vocational Training

Discretionary grants for bilingual vocational training prepare persons with limited English proficiency to perform adequately in a work environment which requires English language skills. In 1980-81, $3.96 million in Federal funds was appropriated for this program, all of which was issued as discretionary grants by the Secretary. This is a decrease from the $4.8 million available in 1979-80. The 1981 funds were used for 12 bilingual vocational training projects for a total of $2.574 million, 6 bilingual vocational instructor training projects for a total of $990,000, and 2 instructional materials development contracts for a total of $396,000.

The training projects provided specific vocational job skills to 1,062 unemployed and underemployed persons who spoke Spanish, Chinese, Cherokee, Micmac, Laotian, Cambodian, Korean, or other languages. These projects were conducted in local education agencies, institutions of higher education, private nonprofit vocational training institutions, and organizations and agencies that specifically serve persons whose native language is other than English. Each trainee learned the skills in occupations such as chef, auto mechanic, electrician, secretary, or refrigerator repairer. In addition to teaching specific skills, the projects offered job-related English as a second language instruction, job counseling, job placement, and followup services.

The six bilingual vocational instructor training projects prepared 203 teachers and job placement/counseling specialists to qualify as staff for such programs. Grantees were institutions of higher education or other educational institutions. These instructor training projects helped both bilingual vocational instructors and teachers of job-related English as a second language to learn the skills they needed to develop their own bilingual vocational curricula and teaching techniques. Languages other than English in which the instructor-trainees were fluent included Spanish, Indian, Chinese, and Vietnamese, among others.

In June 1982, two 18-month research contracts were awarded. The first award was for a study on the "Identification of Obstacles that Prevent Persons of Limited English-Speaking Ability from Participating in Bilingual Vocational Training Programs." Findings from this study will provide information to increase trainee completion rates and insure that trainees receive the full benefits of participation in the program. The information will be useful to directors and other staff of bilingual vocational training programs, as well as persons planning such programs.

The second contract was for the "Provision of Leadership Training for State Agencies and Training Institutions." The goal of this project is to enable the State Departments of Vocational Education to strengthen existing bilingual vocational training programs, to initiate new programs, and to aid participating institutions of higher education develop training programs. The project proposes to achieve this goal by 1) imparting a more comprehensive knowledge of successful bilingual vocational training practices to the States and thereby enabling them to provide broader technical assistance to local educational agencies; and 2) training personnel at the participating training institutions so that they will be able to implement the newly acquired knowledge in curriculum planning, course modifications, or inservice training programs.

Bilingual vocational training programs can reduce unemployment rates, increase job earnings and increase the rate of labor force participation of limited English-speaking adults, according to a recently completed study, Evaluation of the Status and Effects of Bilingual Vocational Training, Kirschner Associates, Inc., Washington, D.C., March 1980.

According to the study, improvement of the average unemployment rate was greatest among trainees with high preprogram unemployment rates, Puerto Rican-born or Central American-born persons, trainees who spoke "just a few words of English" at the time they entered the program, trainees who received more than 240 hours of vocational training, and trainees from Subpart 3 bilingual vocational training programs. Other variables associated favorably with unemployment rate change included: coordination between vocational and English as a second language instructors, and post-program employment in an occupation matched to the training.

Determination of net impacts on trainees of participation in bilingual vocational training programs was not possible because of the lack of a "control" or comparison group against which to assess the labor market achievements of the trainees. Despite the absence of a valid comparison group, it is useful nonetheless to gauge program outcomes against national trends to attempt to assess whether the improvement in trainees' unemployment rates and earnings represent any possible contribution by the bilingual vocational training programs.

The unemployment rate of trainees dropped considerably more than the national rate and more than the average rate for the local labor areas served by the programs. Trainees' weekly job earnings nearly kept pace with inflation, a creditable performance between late 1976 and mid-1979. The trainees, in comparison with the national labor force, had, prior to entering the program, considerably less work experience, lower educational attainment levels, much lower English language proficiency, and, of course, a higher proportion of racial/ethnic and language minorities. All of these factors placed the trainee at a disadvantage in the labor market compared with workers who did not possess these characteristics. Improvements in the unemployment rate and earnings of the trainees were of sufficient magnitude to make it extremely likely that these changes were the result of participation in the bilingual vocational training programs.

Incarcerated Students

The Corrections Program was established in December 1980 as a cooperative effort between the U.S. Department of Education (ED) and the National Institute of Corrections (NIC). The mission of the Corrections Program is to provide national leadership, coordination, technical assistance, and advocacy for correctional education. The overall goal is to increase the quality and quantity of education and training opportunities for adult and juvenile offenders.

Despite the generally recognized need for more and better education, training, and work opportunities for inmates, correctional education has typically remained a low priority at almost all levels - Federal, State, and institutional. State agencies which have no correctional specialists on their staff seem to be unaware of the needs of correctional education and offenders. Federal funding for corrections has not been categorical, and because there has been little coordination among the 70 Federal programs which can be used for corrections, the funds that are available have not been effectively tapped.

The Vocational Education Act authorizes, but does not specifically mandate, the expenditure of funds for vocational programs for offenders. In addition, the Act does not require States to provide data on vocational education enrollments or outlays in the correctional setting. Hence, no systematic data on correctional vocational programs is available from State reports or through the Vocational Education Data System (VEDS).

The lack of national data about vocational education for offenders prompted the National Association of State Directors of Vocational Education to conduct a national survey to identify the level of outlays for vocational programs in correctional settings. The survey responses indicated that the VEA is one of three Federal laws to which States most often look for funding correctional education programs.

Out of 49 States responding to the survey, 27 reported spending Federal VEA funds in 1979 for correctional vocational programs. During 1978-79, approximately 1 percent of the entire VEA budget went to vocational programs in a correctional setting. This level of fiscal support permitted 12.5 percent of the total State prison population to participate in vocational programs.

The 1979 National Institute of Education study of correctional vocational education indicated that the low levels of VEA funding for correctional education projects were a result of correctional institutions' inability to compete against local school districts and other educational agencies for funding. In some cases, correctional agencies, by State law or definition, are not "local educational agencies" and are therefore not eligible recipients under the Act. In other States, special arrangements have been made so that correctional institutions may receive funds. In eight States which established "correctional school districts," these districts received twice as much VEA support in 1979 than those States with institutions without such status.

The Department of Education administers approximately 50 programs in seven Offices through which funding for correctional education and training activities may be obtained. In pursuing its major objective of

coordinating correctional education functions across ED, the Corrections Program, housed in the Office of Vocational and Adult Education, acts as a clearinghouse for information on these programs. The purpose of this process is to focus support for correctional education. Progress was also made during the past year in raising awareness and sensitizing other ED staff to the education and training needs of the incarcerated.

The OVAE Corrections Program also made considerable progress over the past 2 years in facilitating linkages among correctional agencies and the Federal, State, and local agencies that channel Federal funds.

- Cooperative relationships were established with many programs under the Department of Justice, particularly with the National Criminal Justice Reference Service (NCJRS) and the National Institute of Corrections (NIC), which has provided ED with two annual $50,000 grants for the establishment of a corrections program. Valuable information such as funding guides and directories were developed, and research studies were obtained because of the grant.

- Cooperative relationships were developed with the Federal Bureau of Prisons and State agencies regarding curriculum development and standards for adult and vocational education programs.

- Cooperative relationships were also established with the Department of Labor; all State Directors of Correctional Education, Adult and Juvenile; and many national, regional, State, and local organizations representing correctional, educational, and governmental interests.

A serious continuing problem for corrections is the lack of State and local vocational education expenditure data for the incarcerated. Until such data are obtained, the status of vocational education services to this special target group will be impossible to assess, except anecdotally.

Appalachia Program

In 1965 the Appalachian Regional Commission (ARC) faced several problems: vocational education levels in Appalachia were far below national standards; improvement was essential to economic growth of the Region; and Appalachian States and communities lacked the resources necessary to catch up with the rest of the Nation.

The ARC set two goals to help eliminate the problems: a vocational or technical school within commuting distance of everyone in the Region; and job-relevant training for at least half the young people. Since 1965 the Commission has invested over $330 million in construction and/or equipment expenditures for 705 vocational/technical education facilities with a capacity to serve over 400,000 students during a school year.

With the network of facilities now near completion, the first goal has been achieved and the emphasis has shifted from construction toward expanding use and improvement of training. The second goal has also been achieved, as 52 percent of the Regions' 11th and 12th graders are now enrolled in job related vocational/technical education programs.

With the goals of the program essentially completed, Congress asked the Appalachian Governors in December 1981 to make recommendations for a finish-up program. The Administration has proposed that the ARC and its non-highway programs be terminated in fiscal year 1984. This reflects the Administration's policy of relying on the private sector and State and local governments to provide the stimulus for economic development.

Funds for the ARC program have been reduced. In fiscal year 1981, 63 projects were funded for a total of $20.6 million. During fiscal year 1982, 51 projects were funded for a total of $12.8 million, including $5.5 million of ARC funds, $.5 million of Federal vocational education funds, and $6.8 million of State and local funds. Only $1.7 million of ARC funds were committed for construction with the remainder used for upgrading programs and expanding usage.

In fiscal year 1983, projects will have to demonstrate how they would initiate or improve training activities to make them more relevant to the current job market. The following types of projects are anticipated:

- o customized training to upgrade adult job skills;
- o provision of training equipment compatible with current job opportunities; and
- o establishment of basic skills centers in existing vocational/technical facilities to improve employability.

The ARC program will focus funds on improving immediate job prospects of people in the Region.

Programs for Indian Tribes and Indian Organizations

The Vocational Education Act provides programs for Indians through discretionary grants that are awarded by the Secretary to tribes and tribal organizations. The tribal organization plans, conducts, and administers the vocational education programs. The total project period of an award may not exceed 3 years.

During 1981-82, 34 grants were awarded in 15 States to tribal organizations. Of these, 28 projects began their third year of funding; and 26 projects began the second year. Ongoing projects are reviewed each year and continuation is based on evidence of satisfactory performance.

Approximately 9,000 Indian youth and adults have benefited from vocational education programs under this set-aside. Students participated in skill training, career awareness, counseling, and placement services. In addition, instructors and project directors received inservice training.

Vocational education is offered in a wide range of occupations including construction trades, heavy equipment operators, business and clerical skills, small business management, agricultural occupations, automotive repair and maintenance, diesel engine repair, upgrading skills of police officers, boat building, solar construction, and fisheries management. In

addition, bilingual training in a variety of occupations is part of the program.

Programs funded under this authority support new vocational programs on Indian reservations where training opportunities have in the past been very limited. Increased emphasis is being given to coordinating vocational education programs with tribal economic development plans. Projects are designed to provide training to Indians who cannot commute great distances and who cannot afford to leave the reservation to attend schools.

VOCATIONAL STUDENT ORGANIZATIONS

In 1981 the Department of Education reaffirmed a policy that recognizes vocational student organization activities as an integral part of vocational instructional programs. The policy includes nine vocational student organizations, and affirms that the performance and potential of these organizations are compatible with the overall purposes and objectives of vocational education today. The following sections briefly highlight some of the recent accomplishments of these organizations.

Future Farmers of America

The Future Farmers of America (FFA) student organization for agricultural programs has approximately 670,000 members, of which 20 percent are female. The organization elected its first female president in November 1982 at the National FFA Convention in Kansas City, Missouri. Phelps High School in Washington, D.C. and East High School in Kansas City, Missouri are the two most recently formed chapters, and they were chartered at the National Convention.

Community development activities are a strong component of the FFA student organization. Some chapters take surveys of agricultural industries to determine their needs for employees. Many chapters take on projects such as renovation of an historical building or a building at a fair grounds. In one statewide project, students gleaned corn behind cornpickers, sold the corn, and paid for construction of a speech therapy unit for the handicapped.

Activities for personal development are also a vital part of the student organization. Activities include contests such as public speaking, judging, and agricultural mechanics. Students also participate in 22 proficiency contests in areas such as soil and water management, outdoor recreation, crops production, and livestock production.

National Postsecondary Agriculture Student Organization

The National Postsecondary Agriculture Student Organization (NPASO) has attracted approximately 6,700 members since it was organized in March 1979. The organization has since been officially incorporated and is operating successfully.

The centerpiece of the organization is the PAL/PEER awards program. PAL stands for "Partners in Agricultural Leadership," and PEER stands for "Personal Education Evaluation and Recognition." Through the PAL/PEER

effort, partnerships were formed with the private sector, and include the instructor, the student, the parents, and the employer. Goals are mutually set for the student to achieve the skills and competence necessary for the business. Contests are held for students to demonstrate their skill development in areas such as beef, sheep, hog, and dairy production, agribusiness, and running a business.

Under the PEER portion of the program, the student can set personal goals for self-development, leadership, and adaptability within the private sector. Contests for personal development include extemporaneous and prepared public speaking and job interviewing.

The private sector has shown much interest and enthusiasm for the PAL/PEER program and has sponsored seven different awards. Winners are selected each year at the NPASO national meeting, and provide incentives for other students to excell in these cooperative activities.

Future Business Leaders of America and the Office Education Association

There are two student organizations which are an integral part of vocational business education programs: Future Business Leaders of America — Phi Beta Lambda, Inc. (FBLA-PBL) and the Office Education Association (OEA). These student organizations provide opportunities for students to develop leadership abilities and an understanding of business occupations. In 1982 there were 220,000 students in FBLA-PBL and 76,000 in OEA.

The goals of Future Business Leaders of America — Phi Beta Lambda include the following:

- o developing business leadership;
- o understanding American business enterprise;
- o establishing career goals;
- o encouraging scholarship;
- o promoting efficient financial management, and
- o developing character and self-confidence.

The goals of the Office Education Assocation include the following:

- o developing student leadership;
- o improving poise, sociability, attitude, and tact;
- o developing vocational competence in office occupations;
- o promoting better understanding at local, State, and national levels;
- o promoting student ambition for useful purposes;
- o encouraging effective planning;
- o developing enthusiasm for learning and for remaining knowledgeable in the office field;
- o developing confidence and a spirit of competition;
- o learning to get along with others;
- o developing loyalty through esprit de corps; and
- o understanding and promoting business.

The Future Business Leaders of America — Phi Beta Lambda, Inc. is involved in many community projects. One project that involves local chapters,

State chapters, and the national organization is PROJECT HELP for the benefit of the March of Dimes. Every State with a Future Business Leaders of America—Phi Beta Lambda chapter is involved with this project. At the National Leadership Conference, a handicapped individual is presented with the funds that were raised by the chapters during the year. The Future Business Leaders—Phi Beta Lambda national organization is approaching $2 million in overall contributions to the March of Dimes.

The Office Education Association is also involved in many community service projects such as: safety, special olympics, national service project, and free enterprise. C.A.R.E. (Community Action to Reach Everyone) is a community recognition project for local chapters. Awards are given to the local chapter with the best projects.

Future Homemakers of America, Inc.

The Future Homemakers of America, Inc. (FHA), the vocational home economics education student organization, has been operating successfully since 1945. The FHA is the only in-school vocational student organization with the family as its central focus. The organization assists in preparing youth up through age 18 for many aspects of life including the following:

- o preparing for home and community living as responsible family members and citizens in society;
- o learning how to identify and solve problems;
- o exploring careers and developing employability skills;
- o developing self-confidence, a sense of direction, ethics and values; and
- o improving the quality of family and individual life.

There are two types of chapters in the Future Homemakers of America organization:

FHA chapters emphasize consumer and homemaking education programs. Chapters explore homemaking as an occupation, and the relationship of homemaking to paid occupations that use basic knowledge and skills. FHA also promotes the understanding that homemakers, males and females, fill multiple roles through the interrelatedness of the home and the workplace.

Home Economics Related Occupations (HERO) chapters emphasize the preparation of males and females for jobs and careers in home economics related occupations. HERO also promotes the knowledge that workers in the labor force fill multiple roles as paid employees, homemakers, and community leaders.

Some of the concerns that members of the Future Homemakers of America are addressing through individual or chapter projects include the following:

- o teenage pregnancy and parenthood education;

- o family relations and child care;
- o elderly needs and concerns;
- o peer pressure;
- o alcohol and drug abuse;
- o nutrition and fitness;
- o family violence;
- o handicap awareness;
- o energy conservation;
- o volunteer services;
- o job preparation;
- o youth employment; and
- o teen-run businesses.

Over 6 million youth, males and females, have participated in FHA and HERO chapters of the Future Homemakers of America programs. Today, there are 400,000 vocational home economics education students from elementary through grade 12, including over 23,400 young males, involved in FHA and HERO. There are approximately 12,500 chapters in all 50 States, the District of Columbia, Puerto Rico, and the Virgin Islands, with over 15,000 vocational home economics education teachers serving as local advisors.

Among the activities and projects undertaken by FHA or HERO chapters are those which serve to promote leadership development, with the ultimate goal of strengthening the FHA membership and improving citizenship. The theme of the National Leadership Meeting was "Youth Energy - Unlimited Potential." The meeting included leadership workshops and launched the building campaign for the National Leadership Center located in Reston, Virginia.

A nationwide fund raising campaign in cooperation with the March of Dimes raised enough money to sponsor a national project "The Healthy Babies: Choice or Chance." In addition to this project, new March of Dimes' materials entitled "Starting a Healthy Family" were piloted in several States and reached over 1,200 persons.

A project entitled "The Student Body Project" emphasized good nutrition and knowledge of food use. This project was conducted in 16 States and was supported entirely by corporations such as Quaker Oats, Proctor and Gamble, American Institute Corp., S & H Foundation, Whirlpool, Coca-Cola Company, Gerber Products, Gold Kist Inc., and Pet Inc. These organizations made cash contributions of $40,800 to the project.

Other nationwide projects were "Teens' Businesses" and "Families and Futures." Students initiate teen-to-teen communication and community action on nutrition and parenting issues. Students also learn how to use their home economics knowledge and skills to run teen businesses such as clothing boutiques, catering companies, upholstery shops, food stores, mini-restaurants, modeling companies, and child care mini-centers.

Distributive Education Clubs of America

The student organization in marketing and distributive education is the Distributive Education Clubs of America (DECA). Like other student organizations in vocational education, DECA enhances personal and

occupational competencies and is delivered as an integral part of instructional programs. In 1980-81, the High School Division of DECA had a membership of 170,020 in 5,122 chapters. The Junior Collegiate Division had a membership of 6,515 in 283 chapters. DECA is second only to the Future Farmers of America in membership percentage figured against total enrollment in the relevant instructional program.

Among the activities undertaken by DECA chapters are those which raise the level of civic consciousness of students, such as voter registration campaigns, projects dealing with senior citizens, bicycle safety programs, and fund raising for worthy causes. DECA also conducts an annual nationwide fund raising activity on behalf of the Muscular Dystrophy Association. Each year a national DECA officer appears on the Jerry Lewis Labor Day Telethon in Las Vegas and presents a check for the total amount collected by participating local DECA chapters. In 1981, a check for $371,000 was presented, and in 1982, $321,044 was donated. These community projects are documented for State and national recognition.

DECA chapters also participate in an organized program to reduce shoplifting. DECA members conduct student and business surveys, make posters, hold school assemblies, and other activities to inform themselves and others about the seriousness of shoplifting. The national DECA organization recognizes those chapters with the most effective and comprehensive campaigns.

Health Occupations Students of America

Health Occupations Students of America (HOSA) is the national organization for vocational education students enrolled in health occupations programs. Formed in 1976 by six State associations, HOSA now has 27 affiliated States and a total membership of 30,696, a 6 percent increase over 1981. Eighteen States reported increases in membership in 1982. The number of local chapters also grew by 3 percent, from 1,014 to 1,041.

The Fifth Annual National HOSA Conference met in Chicago, Illinois on June 24-26, 1982 with 1,200 members attending. Activities included workshops, general sessions, tours of medical facilities, and social and competitive events. Competitive events included: 1) health occupations related events such as basic first aid; 2) health occupations skill events such as dental assisting; 3) individual leadership events such as job seeking skills; and 4) team leadership events such as a community awareness project.

The first edition of the National HOSA Handbook was completed in the summer of 1982 and distributed to State associations and local chapters. The Handbook is an instructional resource guide for chapter management and leadership development. Since HOSA activities are an integral part of health occupations instructional programs, the HOSA Handbook will be a valuable resource to help HOSA members, officers, and teacher/advisors plan local chapter activities.

Local school chapters of HOSA provide programs and activities which promote the development of occupational and leadership skills. Chapters frequently initiate or participate in school and community service projects. Examples of chapter activities are school health promotion drives testing hearing,

vision, urine, and vital signs; CPR demonstrations; bloodmobiles; the distribution of pamphlets on cancer, hypertension, and venereal disease; and slide/lecture programs on reducing coronary heart disease risks. The student chapters frequently cooperate with professional organizations such as the American Cancer Society, the American Heart Association, the Red Cross, and business and industry in the development of such programs and activities.

American Industrial Arts Student Association

The American Industrial Arts Student Association (AIASA) continues to show significant gains in the number of States, chapters and students participating. The Association was incorporated during school year 1978-79, and by 1980-81, there were 867 chapters in 34 States with 21,655 members compared to 730 chapters in 31 States with 17,344 members in 1979-80.

Typical AIASA activities include leadership development with students learning to lead the association, conduct meetings, and plan a program of work for the year. Other activities include 1) fellowship, such as sports tournaments and talent shows; 2) enrichment, such as participation in industrial arts fairs, career exploration trips to businesses, industries, and colleges; 3) fund raising, such as producing and selling products, carwashes; 4) community services, such as raising money for charity, preparing holiday donations for the needy; and 5) school services, such as general cleanup, building props for chorus or drama productions. The association also promotes achievement recognition through annual competitive events such as public speaking, writing, and mechanical drawing. Plans are underway to expand these events to include all phases of "hands on" experiences representative of contemporary industrial arts.

The professional associations, in cooperation with the Department of Education and the State education agencies, are working to have industrial arts play a much larger role in the labor force delivery system than it has in the past. Industrial arts can provide an exploratory and career awareness function for vocational education. By exposing more students to more kinds of careers, industrial arts can help students make more informed career choices before they enter the labor force.

Vocational Industrial Clubs of America

The Vocational Industrial Clubs of America (VICA) is the national youth organization serving trade and industrial education. VICA incorporates leadership, citizenship, and character development with skill training in occupations. During 1980-81, VICA had 50 State associations and 13,000 local clubs with a total membership of 260,692 associate students and teachers. In addition, 245 businesses and industries supported the activities of VICA.

Although membership in VICA has been increasing over the years, only about 8 percent of trade and industrial students take advantage of the opportunity to become members and benefit from the activities of VICA. The challenge to increase student membership lies not only with VICA, but also with State and local agencies. Among problems which must be addressed are: lack of understanding of the value of student organizations by teachers;

minimal support and encouragement of existing student organizations at the local level; and lack of followup information on the benefits provided to the members of student organizations.

Since 1968, VICA, in cooperation with business and industry, has annually held national leadership and skill competitions. In addition, Olympic events are held locally and statewide. State winners are the official contestants in the VICA United States Skill Olympics. In June 1982 there were 2,800 students participating in 36 separate competitive events. The winners of the U.S. Skill Olympics are eligible to participate in the International Skill Olympics which takes place every other year in 1 of 12 different countries. These students represent not only the VICA organization, but all trade and industrial education students in the United States. The next International Skill Olympics will be held in Linz, Austria in the summer of 1983. Travel and living expenses for competitors will be paid for by private sponsoring companies.

In addition to skill competition, VICA promotes citizenship through activities such as community service projects, building park benches, phoning in local election returns to a TV station, winterizing homes for elderly citizens, and participating in a Youth Volunteer Conference sponsored by the President's Task Force on Private Sector Initiatives. Encouraging leadership is another VICA priority. Activities include the annual Washington Leadership Training Institute for incoming State student officers, club projects such as providing meals for needy groups, and raising money for charity.

VICA also promotes safety through club projects about car care, seatbelt safety, traffic safety, and drunk driving. One project includes "Officer Ugg" stickers to put on bottles containing poison so children will know not to drink the contents.

As an integral part of trade and industrial instructional programs, VICA offers students the opportunity to develop and prepare themselves for assuming successful roles in society and the labor market.

SEX EQUITY

In 1981, approximately 47 million women were in the labor force, either working or looking for work. The participation of women in the labor force is expected to increase even more in the future. These women are in the labor force for economic reasons, and need education and job skills to obtain and advance in employment.

The Vocational Education Act (VEA) authorizes States to spend Federal funds for actions necessary to ensure equal access to vocational education. The Act also provides for full-time personnel to assist State Boards for Vocational Education to furnish equal educational opportunity for men and women, and to reduce sex bias and sex stereotyping in all vocational education programs.

In the 6 years since the passage of the VEA, efforts to expand the roles of men and women in vocational education have brought about many changes. Enrollments in nontraditional programs are increasing as Table 19 indicates.

Table 19. -- Female enrollment in vocational education (VEA) by program area, 1977-1981

Program	1977		1978		1979		1980		1981	
	Total enrollment	Percent female	Total enrollment	Percent female	Total enrollment	Percent female*	Total enrollment	Percent female**	Total enrollment	Percent female***
Agriculture	1,056,259	14.9	1,006,542	17.2	964,452	19.2	878,529	19.6	843,401	20.2
Distribution	966,156	49.7	962,009	51.5	927,929	53.6	961,018	54.7	929,689	56.0
Health	740,520	78.2	758,808	77.9	791,155	84.3	834,296	79.0	949,653	76.4
Consumer and homemaking	3,652,793	81.6	3,659,441	80.5	3,658,475	79.4	3,385,736	78.0	3,189,248	77.4
Occ. home economics	510,816	83.9	459,590	82.4	577,818	77.9	551,862	78.6	573,530	78.2
Industrial arts	774,270	12.1	1,471,059	17.1	1,681,927	14.9	1,536,667	17.0	1,899,779	19.4
Business education	3,273,049	75.1	3,312,475	75.6	3,439,623	73.5	3,400,057	73.7	3,615,048	73.4
Technical	519,537	17.0	527,681	17.6	472,200	19.4	499,305	21.1	505,859	23.9
Trade and industrial	3,246,698	14.4	3,400,124	15.4	3,411,796	17.5	3,215,987	18.5	3,221,586	18.6

Note: Enrollment in 1977, 1978, and 1979 includes 50 States, District of Columbia, and Outlying Areas.
Enrollment in 1980 and 1981 includes 50 States and District of Columbia.

* Does not include adult short-term enrollments due to a change in reporting systems.
** Does not include 826,801 students whose gender was unreported.
*** Does not include 1,561,389 students whose gender was unreported.

Source: U.S. Department of Education, Office of Vocational and Adult Education 1977 and 1978, and the National Center for Education Statistics, 1979, 1980, and 1981.

Although more men and women are beginning to enjoy freely chosen roles and occupations, certain programs are still predominantly elected by one gender or the other. Agriculture, technical, and trade and industrial education enroll mostly male students, although certain segments within each of these programs are more integrated than the overall statistics indicate. Consumer and homemaking, occupational home economics, business, and health are showing some increases in male enrollments.

Sex Equity Personnel

The sex equity provisions of the VEA include mandated support of full-time personnel to eliminate sex bias, and permissable funding activities such as day care services, support services for women, and grants to overcome sex bias.

Outlays for full-time sex equity personnel in 1980-81 totaled $3,243,202, of which $3,131,809 (96.6 percent) were Federal funds and $111,393 (3.4 percent) were State and local funds. Only six States supplemented their Federal outlays by adding State and local funds. Total outlays for sex equity personnel have increased during the previous 3 years, as shown on Table 20.

Support Services for Women and Other Student Services

Support services for women aid in preparing them for employment in jobs traditionally limited to men. Support services include counseling on the nature of such jobs, the difficulties which may be encountered by women in such jobs, job development, and job followup services. Peer support services for women in nontraditional programs have been adopted by some States. Support services can also be aimed at displaced homemakers and other special groups. Eighteen States served 99,317 women with support services in 1980-81, and outlays increased to $2,501,291. Federal outlays exceeded $1.9 million, or more than 77 percent of the total. Table 20 shows the significant increase in outlays since 1978-79.

States may also provide day care services for children of students in secondary and postsecondary vocational education programs. In 1980-81, 6,569 students received these services. Outlays totaled $1,740,453 of which $785,153 or 45.1 percent were Federal funds.

Grants to Overcome Sex Bias

To help women enter and stay in nontraditional programs, States support model programs and strategies. These activities are directed to increasing nontraditional enrollments and are funded mainly by grants to overcome sex bias or as exemplary programs. Outlays for grants to overcome sex bias totaled $4,577,622 in 1980-81, of which over $4.1 million or 90.3 percent was Federal funds.

Table 20. — Federal and State/local outlays (including carryover funds) for sex equity activities under the VEA, school years 1978-79 to 1980-81, United States and Outlying Areas

Activity	Federal	State/local	Total
1978-79			
Full-time sex equity personnel	$2,713,207	$ 39,425	$2,752,632
Support services for women	570,220	316,872	887,092
Day care services	249,330	722,015	971,345
Grants to overcome sex bias	1,896,624	278,121	2,174,745
Total	$5,429,381	$1,356,433	$6,785,814
1979-80			
Full-time sex equity personnel	$2,948,852	$ 84,646	$3,033,498
Support services for women	1,093,466	1,279,424	2,372,890
Day care services	797,294	764,295	1,561,589
Grants to overcome sex bias	2,167,078	1,836,149	4,003,227
Total	$7,006,690	$3,964,514	$10,971,204
1980-81			
Full-time sex equity personnel	$3,131,809	$ 111,393	$3,243,202
Support services for women	1,942,351	558,940	2,501,291
Day care services	785,153	955,300	1,740,453
Grants to overcome sex bias	4,135,833	441,789	4,577,622
Total	$9,995,146	$2,067,422	$12,062,568

Source: U.S. Department of Education, National Center for Education Statistics, Vocational Education Data System.

The League of Women Voters Education Fund conducted an 18-month study in five States on State and local implementation of the sex equity provisions of the VEA. The Fund published its findings in 1982 and concluded that support for sex equity in vocational education has been progressing slowly but steadily. Progress was reflected in the expansion of sex equity staff, budget increases, and more sex equity requirements in local school districts' applications to States for VEA funds. Where students did enroll in nontraditional programs, instructors indicated that they performed well even though they did not have background experiences.

In May 1982, the Vocational Education Equity Council also reported that progress was being made in improving access to vocational education. The Council is composed of State vocational equity coordinators and other interested persons who provided information on activities in their particular States. The following list represents achievements occuring in one or more States:

- o developing and sharing of model sex equity programs;
- o changing attitudes among educators regarding male and female roles;
- o sex equity efforts moving from creating awareness to action level;
- o sex equity efforts reaching more educators, students, employers, and community groups;
- o labor unions offering apprenticeships to women;
- o increase in the number of females in vocational education administration;
- o students and workers in nontraditional areas developing support systems;
- o ability and skills rather than gender emphasized in vocational education programs;
- o developing new programs combining skills from diverse existing programs, such as combining consumer with homemaking and industrial arts;
- o more women trained in math, science, and technical skills;
- o increasing coordination between vocational education agencies and business and industry in planning for nontraditional workers;
- o standards for measuring progress in sex equity being established; and
- o more States requiring proof of sex equity competency for teaching and counseling certification in vocational education.

PROGRAM IMPROVEMENT

Program improvement may be defined as any activity that is intended to increase the quality of any vocational education program component. These activities range from research, development, testing, and evaluation through staff development, articulation, communication, and advisory councils. While activities may occur singly at any governmental level, most involve a partnership between the State and Federal levels. Experience has proved that products and approaches which are both practical and systematically diffused into local instructional programs have a strongly positive impact on the quality of vocational education. The following sections discuss varied program improvement efforts to increase the quality of vocational education.

State Evaluations

During the 5-year State plan cycle, each State board is required to evaluate every program contained in its plan. "Program" in this context means a statewide program, rather than an individual program in each institution. Consequently, these program evaluations can be based on an acceptable sampling scheme. Under the Act's governing regulations, whatever programs a State chooses to evaluate during a given year must be evaluated across four broad dimensions: 1) planning and operational processes; 2) results of student achievement; 3) results of student employment success; and 4) results of additional services to special populations. While the regulations suggest numerous alternatives for approaching these four evaluation segments, broad discretion is given the States for devising highly individualized models and techniques that match their equally diverse programs, organizational structures, and needs. Further, the Federal Government is prohibited from mandating any common evaluation format for the States.

Under these circustances, it is most difficult to summarize national evaluation findings for any given year. In fact, each State's findings may only be interpretable in the context of its own State plan. Two States, chosen randomly, provide examples of the diversity of evaluation approaches, findings, and styles used in reporting results in the Annual Accountabiltiy Report.

Illinois uses a three-phase system that includes local plan development, review and approval by the State board, and periodic on-site visits by external teams composed of educators, business, industry, and labor representatives; and recent vocational education students. During 1980-81, 127 secondary-level agencies, 8 community colleges, and 10 State-agency institutions were evaluated across six components: planning and evaluation; vocational programs; student services; personnel; program management; and community resources. Results were reported in narrative form; for example, that 64 percent of the agencies used labor market demand data when planning programs; that most local agencies had not been able to follow reasonable replacement schedules for equipment; that 95 percent of all agencies had outreach programs to enroll females, that over 90 percent of all students surveyed rated their instructors' knowledge as above average to high; that employers rated very highly their employees who had completed vocational programs (supported by several tables of data);

and that a higher percentage of community colleges (78 percent) offered additional services to special populations than any other institutional type. Considerable recourse was made to anecdotal illustration and personal accounts of students. While not rigorous by research standards, the Illinois evaluation report was fully acceptable.

Ohio also has a highly rated evaluation system that includes the elements mandated by Federal statute, but also goes well beyond those requirements. As stated in Ohio's fiscal year 1981 Accountability Report, "Five sections comprise this report. The sections follow the November 1, 1978 'USOE Expectations' paper in general, but deviate to reflect the closed-loop planning/evaluation process in Ohio including the Local Education Planning (LEAP) System, the reporting system including followup process, the fiscal system, and the closure system known as Program Review for the Improvement, Development, and Expansion of Vocational Education and Guidance (PRIDE)."

The Ohio report is more statistically oriented than Illinois'. It includes voluminous printouts of the results of student achievement tests, all of which are organized according to percentile norms. Another variation is that evaluation outcomes are directly related to State plan goals and objectives and appear throughout the State's Accountability Report. Ohio also evalutes its own evaluation system on a regular basis. For example, the report notes that, "80 percent of recommendations made during the PRIDE review are completed or in process one year after the PRIDE review." Of course, as is also the case in Illinois and all other States, each institution that is evaluated receives a comprehensive evaluation report that cites specific strengths and weaknesses, and offers specific recommendations. This is followed by a systematic followup and technical assistance effort. This school-by-school "raw" data is not included in the Accountability Report. Yet, Ohio - its statistical prowess notwithstanding - often reports overall State trends in terms such as, "Most schools provide adequate audio-visual equipment to meet guidance program needs."

States also used a variety of evaluation mechanisms in assessing their programs. These mechanisms included self-evaluation, teams of occupational specialists, teams of educators and representatives of business and industry, as well as combinations of these mechanisms.

Evaluation of State vocational education programs is, for practical purposes, only useful to the extent that ensuing recommendations are implemented to improve programs. The States, therefore, have procedures to observe and measure the implementation of recommendations. In 1981 three followup procedures were commonly used: 1) supervision or review of the local plan by State occupational specialists; 2) supervision and local plan analyses augmented by the use of standard State forms; and 3) on-site followup by State occupational specialists.

A review of a random selection of Accountability Reports highlights the breadth of purposes for which the State evaluations were used in 1981. For example, 98 percent of the States used their evaluation results in some degree to improve program planning. States focused on the coordination between business, industry and education, on improving long-range planning, on revising local applications and evaluation procedures, on deleting or adding and improving programs, and on improving the articulation between

secondary and postsecondary programs. Program instruction was a focus for 85 percent of the States. Using the results of the evaluation, many States provided competency-based vocational instruction, updated lesson plans, involved employers in the classroom as resources, purchased new equipment, or reduced the student/teacher ratio. Program support was another focus for evaluation as 88 percent of the States reported new and revised activities in research, curricula, and professional development. And finally, 80 percent of the States surveyed used their evaluation results to improve program access, through sex-equity activities and programs for the disadvantaged and the handicapped, and to improve program services in guidance and counseling, student placement, and assessment.

Accountability Reports for the years 1980 and 1981 were reviewed and compared to highlight significant changes in the evaluation mechanisms or methods employed by the States. This analysis shows that approximately the same number of States used the self-evaluation method each year. However, in 1981 a significant shift occurred toward the use of other methods as 40 percent more of the States indicated that they used a team of occupational specialists, 22 percent more used a State staff evaluation team of educators, and 13 percent more used a community-based evaluation team comprised of educators and representatives of business and industry. While there was a slight reduction in 1981 in the use of combination of self-evaluation and on-site evaluation by business and industry personnel there was a dramatic increase (43 percent more of the States) in the use of evaluation teams consisting of State staff members in conjunction with a self-evaluation technique. In 1981, more (12 percent) States put resources into providing inservice training for members of evaluation teams and in preparing for the evaluations by developing evaluation handbooks (19 percent more).

State Research Coordinating Unit Projects

The Vocational Education Act requires States and Territories to establish a Research Coordinating Unit (RCU) in order to fund projects which improve vocational education programs. The projects include research, exemplary or innovative programs, and curriculum development. The RCU's are responsible for coordinating and funding the projects and providing general administrative functions.

States must submit an abstract for each of their projects to the National Center for Research in Vocational Education (NCRVE). Through the clearinghouse function of NCRVE (discussed in the Programs of National Significance section), an easily accessible data base entitled "Research in Vocational Education" (RIVE) has been established. This enables each RCU to be informed of the activities being conducted by other States, and has reduced duplication of effort among the States. Individuals may obtain information from the RIVE data base by contacting their regional curriculum coordination center.

During 1981-82, as in past years, the RCU's were also required to submit to the National Center products and materials or a final report for each of the projects for which abstracts were submitted. The following statistical information is drawn from the National Center's analysis of the program improvement abstracts received from the States, and is also portrayed on

the following tables. The data are not necessarily definitive for these reasons: data are dependent on information submitted in abstracts; projects may be cancelled after submission of abstract; and projects may be modified by funding or scope of work changes.

- o There were a total of 695 projects, and over $17 million obligated.
- o The number of projects decreased 22.7 percent from the 899 reported in 1980-81.
- o The amount of funds obligated was almost $8 million less in 1981-82 than 1980-81.
- o The distribution of projects, by State, ranged from none to 53 projects reported by Pennsylvania.
- o The total dollar amounts reported by States ranged from zero to $1.6 million in Illinois.
- o Projects awarded to local education agencies totaled 238 or 34.2 percent of the total number awarded.
- o Projects awarded to 4-year colleges or universities totaled 190 or 27.3 percent of the total number awarded.
- o Projects awarded to 2-year colleges totaled 100 or 14.4 percent of the total number awarded.

Table 21. -- Program improvement projects by legislative section, 1981-82

Legislative section under Subpart 3 Vocational Education Act	Number of projects	Obligated funds
Section 131, Research	207	$4,762,046
Section 132, Exemplary and innovative	225	5,841,342
Section 133, Curriculum development	263	6,827,056
Total	695	$17,430,444

Source: National Center for Research in Vocational Education, National Clearinghouse, based on their analyses of abstracts submitted by States.

Table 22. -- Program improvement projects by recipient of funding, 1981-82

Type of organization	Number of projects	Obligated funds	Percent of total funding
4-year colleges/ universities	190	$6,805,785	39.0
Local education agencies	238	4,860,842	27.9
Research/development/ curriculum organizations	43	1,627,118	9.3
2-year colleges (jr. college/technical school/ community college)	100	1,517,831	8.7
Intermediate education agencies	37	985,128	5.7
State education agencies	60	934,839	5.4
Business/industry/labor	14	482,422	2.8
Public sector organizations	8	178,686	1.0
Individuals	5	37,793	0.2
Total	695	$17,430,444	100.0

Source: National Center for Research in Vocational Education, National Clearinghouse, based on their analyses of abstracts submitted by States.

Table 23. — Program improvement projects by target population, 1981-82

Target population	Number of projects	Obligated funds	Percent of total funding
Teachers/coordinator	381	$10,667,179	61.2
Students	82	1,655,971	9.5
Local administrators	75	1,630,934	9.4
Research & development personnel	69	1,515,458	8.7
State administrators/supervisors	30	873,424	5.0
Guidance personnel	25	388,093	2.2
Teacher educators	17	290,679	1.7
Business/industry/labor	3	225,908	1.3
Parents or community representatives	7	114,564	0.7
Institutional (correctional) persons	3	43,234	0.2
Other (population not identified or multiple populations)	3	25,000	0.1
Total	695	$17,430,444	100.0

Source: National Center for Research in Vocational Education, National Clearinghouse, based on their analyses of abstracts submitted by States.

Research

Research is an important element in any State's program improvement effort. Activities under this section are designed to improve or determine the quality of vocational education programs. The States' activities included research which developed and field tested curriculum materials, assessed needs, evaluated results, disseminated products and materials, and other types of applied research. During 1981-82, $4,762,046 was obligated for 207 projects for an average cost of $23,005. In a fully-articulated program improvement system, research is the base upon which the whole system depends. The following is an example of a research project funded by a State:

> Utah supported a project entitled, "Creation of a Telecommunications Network for Vocational Education." Through the use of research funds

this project helped the State establish an accessible system which could be used for the dissemination of information, assessment of needs, and other activities enhanced by quick communication. The scope of work included assessing the need for a system, surveying ongoing communication, and securing information about software and hardware. The network was established at 12 target centers, and clerical and professional staff were trained in using microcomputers, processing data, sending and receiving information, and accessing computer networks.

Exemplary and Innovative Programs

These programs are intended to design, test, evaluate, refine, and determine replication feasibility of model programs at other sites. Successful models can then be used to improve the quality of vocational education in similar schools throughout the State. Especially focused on urban centers and isolated rural area needs, these programs may also focus on effective vocational education for persons with limited English proficiency, correlating vocational education opportunities with current and projected labor market needs, and broadening occupational aspirations and opportunities for youth who have academic, socio-economic, or other handicaps. During 1981-82, $5,841,342 was obligated for 225 projects under this section for an average of $25,962. The following is an example of an exemplary and innovative program project funded by a State:

Kentucky has traditionally administered its area vocational centers from the State level; however, State staff decided to find out if a center could be more effectively managed by a local board. A contract was awarded to the Ballard County Board of Education to operate the Ballard County Area Vocational Center and to identify the most effective administrative procedures which could be replicated by other county boards to do the same. This project showed that coordination and integration of academic and vocational curricula improved the Center and reduced its operational cost. As a result, local administration of area centers is being expanded.

Curriculum Development

These projects emphasize the development and dissemination of curriculum materials for 1) new and changing occupations, 2) meeting the needs of the handicapped, disadvantaged, and limited English proficient persons, 3) reducing sex bias, and 4) increasing participation in nontraditional programs. In 1981-82, $6,827,056 was used for 263 projects with an average funding level of $25,958. This low average for project costs suggests that most States adapt or revise currently available curricula. Cost analyses have shown that to develop, field test, and validate 30 or 40 competency-based, individualized, instructional modules requires at least 3 years and a funding level of at least $500,000.

One strategy that States have implemented to meet their curriculum needs is to become active members of curriculum consortia in order to share curriculum development costs. One of the oldest of these, the Vocational Technical Education Consortium of States (V-TECS), has 15 State members (Alabama, Florida, Georgia, Illinois, Indiana, Kentucky, Maryland, Mississippi, New York, Pennsylvania, South Carolina, Tennessee, Virginia,

West Virginia, and Wisconsin). In the past, V-TECS's primary purpose was to develop catalogs of performance objectives and performance guides. By 1982, some focus was given to the next stage, actually developing curriculum. Another consortium supported by 29 States, Interstate Distributive Education Curriculum Consortium (IDECC), focuses on improving one occupational area. The newest consortium is the Mid-America Vocational Curriculum Consortium (MAVCC) which includes 11 States (Arkansas, Colorado, Kansas, Louisiana, Missouri, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, and Texas). MAVCC was established as a result of needs identified by the federally funded Midwest Curriculum Coordination Center.

As an example of a curriculum development project funded by States, the State of Washington used funds under the authority of this section to revise the homemaking curriculum for the Everett School District. The previous curriculum which dated from 1974 has been modified to include measurable student learning objectives for all classes.

State Personnel Development

One legislative purpose of the Vocational Education Act is to improve the qualifications of persons serving or preparing to serve in vocational education programs as teachers, teacher educators, administrators, supervisors, vocational guidance counselors, and other professionals. Personnel preparation viewed in its broadest terms must be considered a developmental process that starts with current, up-to-date, high quality preservice education, and evolves into inservice education which is a continuous and planned updating of skills to meet both current and future needs. As a result, preparation and development are frequently used interchangeably.

In 1980-81, there were 282,511 full-time and 118,194 part-time teachers in vocational education. Instructional staff increased by 22,644 teachers over the number reported in 1979-80, almost all in the part-time postsecondary and adult categories. The following table lists the number of full-time staff by institutional type and program area.

Table 24. -- Number of full-time instructional staff (VEA), by institutional type and program area: 50 States and D.C., 1980-81

Program area	All institutions	Secondary	Postsecondary		
			Regionally accredited	State-approved	Other
Total	282,511	193,297	61,593	8,951	18,670
Agriculture	15,414	12,381	1,891	364	778
Distribution	14,296	8,324	4,540	255	1,177
Health	20,151	4,195	12,269	1,212	2,475
Occupational home economics	9,515	6,905	1,859	188	563
Office occupations	57,578	38,195	14,680	1,299	3,404
Technical	10,756	1,291	8,513	497	455
Trade and industrial	61,513	35,943	13,526	4,302	7,742
Consumer and homemaking	31,881	29,093	1,397	43	1,348
Industrial arts	20,247	20,196	22	0	29
Other not elsewhere classified	41,160	36,774	2,896	791	699

Source: U.S. Department of Education, National Center for Education Statistics.

In addition to instructional staff, there were 34,062 other full-time and 6,762 other part-time personnel including local and State supervisors and administrators and various local support staff in vocational education during 1980-81 (virtually the same as 1979-80).

Outlays for preservice and inservice training in 1980-81 totaled $56,376,476, of which 51.3 percent was Federal funds. This is an increase of over $8.1 million from 1979-80. The Federal share also increased by 3.2 percent.

In funding preservice and inservice training, special emphasis is given to encouraging projects which focus on new and emerging occupations; improving the quality of instruction, supervision, and program administration; overcoming sex bias; providing exchanges between skilled workers and teachers; improving development of cooperative programs; preparing trades and industry workers to become teachers; meeting the needs of the handicapped, the disadvantaged, and the limited English proficient; and providing short-term or regular-session institutes to improve the qualifications of persons entering or re-entering teaching in programs with teacher shortages.

Because of data gaps in VEDS and the fact that the States do not submit abstracts of their personnel preparation projects to the National Center for Research in Vocational Education (NCRVE), there is no comprehensive accounting of personnel trained during 1981-82 through either inservice or

preservice programs. This year, however, States are being encouraged to submit abstracts to NCRVE, and toward the end of 1982-83, a data base on personnel preparation should be available to provide critical information on this important aspect of program improvement.

The following descriptions are examples of personnel preparation or development projects funded for program improvement:

Kentucky continues to support a personnel development activity begun in 1973-74 which has proved so successful that funds continued to be used for it in 1981-82. This project is the staff/industry exchange which assists vocational instructors and administrators by providing relevant occupational training in the appropriate industry. This project has been successful in upgrading technological deficiencies and improving teaching and administrative skills essential for effective classroom instruction and leadership decisions. During 1980-81, nearly 850 teachers and administrators upgraded their skills through participation in this activity.

During 1981-82, inservice training on microcomputers and microprocessors was provided to business education teachers in Missouri through regional workshops. Another activity was inservice training through the use of the "Part-time Adult Inservice Training Package," which contains self-paced instructional modules. Administrators use the modules to upgrade the skills of part-time adult vocational teachers by selecting the modules most appropriate for the instructors' needs.

New York will expend approximately $150,000 from 1982 through 1985 for vocational education management staff development. In 1981-82, approximately six to eight regional vocational administrators were trained by the State to teach management improvement to local administrators and staff. One hundred or more local vocational education administrators were involved.

The North Carolina Department of Education and the North Carolina Council of Vocational Teacher Educators are cooperating to recruit the teachers needed in North Carolina and to retain the qualified teachers already recruited. A system is being implemented for more effective recruitment, and for following up the teachers in the classroom for 2 years after recruitment.

North Dakota used 1981-82 funds to provide grants to individuals. Each application identified the upgrading needed and described a specific activity to meet the individual's need. Seventeen percent of North Dakota's vocational education personnel received such assistance. In addition, two itinerant teacher educators provided preservice and inservice training for trade and industrial, technical, health, and special needs staff.

Programs of National Significance

Funds appropriated for programs of national significance are used to support the discretionary funding of the Projects of National Significance,

The National Center for Research in Vocational Education, and the National Occupational Information Coordinating Committee. Including the Smith-Hughes appropriation, $7,835,023 was appropriated for these programs for 1981-82. The projects and the National Center will be discussed in the following sections. The National Occupational Information Coordinating Committee will be discussed separately in the section titled Occupational Information.

Projects of National Significance

These contracted projects address nationwide needs and provide Federal leadership to improve the quality of vocational education programs. These projects produce information for decisionmaking and policy development at the national and State levels; develop materials as occupational areas change; and identify and test methods, practices, strategies, and products to improve the quality of instruction and administration. During 1981-82, funds were used to support the six Curriculum Coordination Centers, continue 19 project contracts awarded in previous years, and award contracts for three new projects. (For a list of the 19 continuing projects, see Appendix 3.) Each project is required to keep vocational education practitioners informed about the project and to distribute information or materials about the outcomes of the projects.

"The Secretary's Awards for Outstanding Vocational Education Programs" is one of the three new projects funded in 1981-82 and is the result of the Department's commitment to excellence in education. The Office of Vocational and Adult Education (OVAE), the Regional Liaison Office, and the 10 regional offices worked on this project to identify one outstanding local vocational education program in each of the 10 regions served by the Department of Education. Technical assistance was provided through a contract with Sangamon State University, Springfield, Illinois.

These outstanding programs were at the secondary, postsecondary, or adult vocational levels and provided training in several vocational areas. The Department of Education's 10 regional offices and the Office of Vocational and Adult Education also worked cooperatively with the States to identify and select the outstanding programs, utilizing criteria which included evidence of cooperation with business and industry, placement rates, and quality of the instructional aspects of the programs.

During October 1982, engraved plaques were presented to the 10 outstanding programs. This was the second year in which a project was funded for the Secretary's Awards for Outstanding Vocational Education Programs.

Listed below are the winning programs - one from each of the 10 Department of Education Regions.

Region I
Machine Tool Apprenticeship
Southern Maine Vocational
Technical Institute
South Portland, ME

Region VI
Water Utilities Technology
Dona Ana Occupational Branch
New Mexico State University
Las Cruces, NM

Region II
Progressive Track Articulated Nursing
St. Lawrence-Lewis Counties Board of Cooperative Educational Services
Canton, NY

Region III
Petroleum Production
Bradford Area High School
Bradford, PA

Region IV
Transportation (Truck Driver Training)
Knoxville State Area Vocational-Technical School
Knoxville, TN

Region V
Telephone Service Repair
Wisconsin Indianhead Technical Institute
Rice Lake, WI

Region VII
Bakery Program
Indian Hills Community College
9th & College
Ottumwa, IA

Region VIII
Agri-Business Technology
Lake Area Vocational Technical institute
Watertown School District
Watertown, SC

Region IX
Retail Sales and Merchandising
Stanislaus-Tuolumne-Mono County-ROP
801 County Center, III Court
Modesto, CA

Region X
Electronic Technology
Idaho State University
School of Vocational-Technical Education
Pocatello, ID

"Promoting Economic Development Through Entrepreneurship Education and Training" is another of the new projects and is jointly funded with the Minority Business Development Agency of the Department of Commerce. This project will: 1) assist vocational educators and the Minority Business Development Agency's Business Development Center representatives develop, improve, and expand entrepreneurial education in their programs by providing them with program models, training strategies, and bibliographies of resource materials; 2) promote the concept of entrepreneurial education in vocational education at both the secondary and postsecondary levels, and increase coordination with the Business Development Center network service providers; and 3) develop and disseminate entrepreneurial educational packages for use by vocational educators and Business Development Center network service providers to assist them in developing a coordinated plan for cooprehensive entrepreneurial education. The contractor for this project is Oklahoma State University, Stillwater, Oklahoma.

"Consortium Involving Business, Industry, Postsecondary, and Vocational Education Institutions" is the third new project, and it will develop a statewide planning system for developing high technology programs at the secondary or postsecondary levels for meeting the needs of business and industry. The contractor for this project is Vermont State College, Waterbury, Vermont.

Curriculum Coordination Centers (CCC's)

Six CCC's form the National Network for Curriculum Coordination in Vocational and Technical Education. The Network also includes 57 State

Liaison Representatives for Curriculum, who serve as informal resources for Network services such as curriculum coordination, technical assistance, inservice training, library loans, curriculum searches, curriculum adaptations, and dissemination. During 1981-82, the Network provided a variety of curriculum-related program improvement services to States and Territories which benefited the vocational education community.

The six CCC's are funded on a 3-year rotational schedule wherein two CCC's are open for competition each year. Two CCC's (East Central Curriculum Coordination Center, Sangamon State University, Springfield, Illinois and Midwest Curriculum Coordination Center, State Department of Vocational and Technical Education, Stillwater, Oklahoma) received funding as projects of national significance for the second year of their 3-year contracts. Through open competition, two other CCC's (Northeast Curriculum Coordination Center, Division of Vocational Education, Trenton, New Jersey and Northwestern Curriculum Coordination Center, Commission for Vocational Education, Olympia, Washington) received funding for the first year of their 3-year contracts.

During 1981-82, the other two CCC's (Southeast Curriculum Coordination Center, Mississippi State University, Starkville, Mississippi and Western Curriculum Coordination Center, College of Education, University of Hawaii, Honolulu, Hawaii) were funded for the final year of their 3-year contracts. Through a new competition, two 3-year contracts will be awarded in 1983.

The six CCC's reported information to the Department of Education which demonstrates the Network's effectiveness and impact. For example, in 1981-82 States saved about $4 million in developmental costs by adapting 464 curriculum products. In addition, 4,395 curriculum searches were conducted; 40 technical assistance visits were made; 158,736 items were disseminated; 6,000 curriculum items were acquired for lending libraries; and 518 inservice workshops were conducted for 65,278 vocational educators. The Network served teachers, guidance counselors, administrators, supervisory personnel, and industry personnel. One example of the Network serving industry was in Oklahoma, where the Midwest CCC developed a curriculum for a telephone company to use in training its workers.

National Center for Research in Vocational Education

The National Center for Research in Vocational Education (NCRVE) was established in 1978 under the provisions of the Vocational Education Act. As a result of a competitive bid process, the Ohio State University received a 5-year contract to establish the National Center. It has now completed the fifth year of the contract. Open competitive procedures were initiated for the award of the next 5-year contract, and Ohio State University was once again successful in obtaining the contract.

In 1981-82, the Center was supported with approximately $4.6 million in Federal vocational education funds. During this fifth year of the National Center's contract, it delivered a total of 194 products including materials developed for practitioners and administrative reports for the Office of Vocational and Adult Education (OVAE). For a complete list of all these products, see Appendix 4.

Twenty-nine research projects were completed during this fifth contract year including, "Microcomputers in Vocational Education: Current and Future Uses." The study found that the vocational curricula of many programs have already been changed to include use of microcomputers in response to changes in entry-level job skill requirements. Many vocational teachers in all programs have learned computer programming well enough to write software for computer-assisted instruction (CAI) for their own personal classroom use. It was also found that microcomputer CAI currently emphasizes drill and practice methods for teaching students.

The study also documented that commercially available computer languages enable a large number of teachers to use computer-managed instruction (CMI) without learning programming. One of the most significant problems identified in the use of microcomputers is the absence of software which is interchangeable on different brands of microcomputers. The corresponding high cost in developing good instructional software programs is another problem. Finally, the study noted that administrators are not adapting microcomputers to aid in their work as readily as teachers are using microcomputers for instructional purposes.

Another example of a report produced by the National Center is Customized Training for New and Expanding Industry -- A Vocational Education Role in State and Local Economic Development. This report resulted from studying programs in Ohio, New York, and South Carolina which were developed to train employees for specific job skills needed by industry. A total of 16 individual projects were examined in these three States. The report 1) describes these States' efforts to use vocational education resources to foster economic development, 2) assesses the perspective of employers as to the quality and value of the training and services provided, and 3) offers recommendations for future related research. The study found that 1) effective training programs for economic development require facilities and equipment which are up-to-date, flexible, and capable of accommodating a wide variety of training programs; 2) client firms in all three states were highly satisfied with the services they received, which were of higher quality than they could have provided in-house for themselves; and 3) client firms reported that customized training was a factor in their decision to locate within the State.

In another project, the National Center produced an aid to postsecondary program planners and developers who are interested in offering robotics instruction. This paper, "Developing a Robotics Training Program: Guidelines and Specifications," provides information and examples of curriculum content for robotics. This information is intended to assist 2-year colleges in developing programs to train robotics technicians.

In addition to applied research and development (R&D) activities, the National Center also acts as a clearinghouse by distributing program improvement products and information to vocational education planners, decisionmakers, instructional staffs, and evaluators at the Federal, State, and local levels. The Clearinghouse provides access to current information about vocational education instructional materials and research and development efforts. Under the Clearinghouse, the National Center 1) operates a computerized information system for projects, 2) develops an annual report and annotated bibliography of R&D projects, and 3) maintains

a system which identifies military curriculum materials which have application for civilian vocational education programs. By the end of the fifth year, the Clearinghouse had 1,666 items in its vocational education curriculum material database, and military curriculum material for 1,400 courses.

In addition to the Clearinghouse, the National Center conducts a Dissemination and Utilization program which locates high quality educational products and information for vocational practitioners. Through this effort, individuals from all parts of the vocational education community are able to locate, share, and use the best educational materials available. In 1982, 6 products were selected from throughout the Nation for wide distribution, and 10 review-and-synthesis papers and 7 interpretive briefs were also delivered. The Center conducted 136 displays of materials, disseminated over 98,156 promotional materials to 87,690 participants. In addition, 17 mass mailings were sent to 13,641 individuals. The program Information Office also answered 4,400 inquiries for information.

Through its evaluation function, the National Center develops handbooks, guidelines, and other appropriate materials which assist State and local practitioners to evaluate and improve their vocational education programs. The Center staff also conducts studies which produce information concerning trends and future needs in vocational education. Through this Information for Planning Policy Development, the Center focuses on priorities for program planning in vocational education, for articulation of State and local planning, and for development of State plans.

The National Center also conducts leadership development activities through the Advanced Study Center. The Advanced Study Center is charged with providing opportunities to extend the leadership abilities and scholarship capabilities of established vocational education leadership personnel, as well as those individuals who show clear promise of distinguishing themselves in the future. Four persons were selected in 1981-82 to participate in the Advanced Study Center and spend up to a year pursuing an independent scholastic endeavor at the National Center.

Professional development is also proveded through the National Academy for Vocational Education which has two components. One component is the Institute Program which offers workshops, conferences, and seminars at locations across the country on topics of current interest to vocational educators. In addition, the National Academy plans and conducts professional development activities at the specific request of a State or local education agency. During the fifth contract year, the National Academy conducted 82 conferences, seminars, and workshops in 24 States. More than 2,900 people participated in these activites.

The second component of the National Academy is the In-residence Program, which allows persons the opportunity to use the research facilities of the National Center to pursue their own studies on an open-entry, open-exit basis. There were 27 participants in 1982.

In the fifth year of the contract, the National Center progressed as planned in all functions and tasks in its scope of work.

Coordinating Committee on Research in Vocational Education

This Committee was established in accordance with Section 171 of the Vocational Education Act. Representatives from the National Institute of Education, the Office of Vocational and Adult Education, the Fund for the Improvement of Postsecondary Education, the Division of Career Education, the Office of Special Education and Rehabilitative Services, the National Advisory Council on Vocational Education, and the National Commission for Employment Policy meet bimonthly. By sharing program information, publications, and releases, the Committee members have coordinated program efforts and reduced duplication. The exchange of information which takes place at the Committee meetings has had an impact upon program planning at the member agencies. In addition, the Committee has sponsored program briefings and seminars to increase the awareness of the program efforts of the various agencies.

The Committee has developed an information system which includes publishing Projects in Progress. This publication contains data and evaluations on current vocational education projects. Projects in Progress assists in the widest possible dissemination of project results and products, and provides a basis for more systematic planning. In 1980-81, 200 copies of Projects in Progress were distributed to the Coordinating Committee agencies, vocational education leaders, and Congressional members and staff.

The Coordinating Committee on Research in Vocational Education (CCRVE) and the American Vocational Education Research Association jointly sponsored a 1 1/2 day Colloquium on Vocational Education Research for the 1980's on July 29-30, 1982 at the National Academy of Sciences. Participants included representatives from agency members of CCRVE and other Federal agencies; representatives from State and local educational agencies; representatives from private organizations with research and development and/or policy missions; and academic and nonacademic representatives from institutional research performers. The Colloquium elicited and synthesized suggestions for research programming in the light of 1) national, State, and local vocational education problems and policies, 2) user needs, and 3) the interests and priorities of individual and institutional performers of vocational research and development.

National Advisory Council on Vocational Education

In 1982, 21 new members were appointed to the National Advisory Council on Vocational Education. The new Council immediately formed three committees reflecting its priorities: the Legislative Committee, Futures Committee, and Ad Hoc Committee on the Handicapped. The Legislative Committee undertook review and consideration of the Vocational Education Act, and the proposals of various groups and organizations, with a view toward fulfilling the Council mandate to advise the President, the Secretary, and the Congress, on issues related to the up-coming reauthorization of the statute. The Futures Committee began meetings with various groups and individuals to discuss the long-range impact which new technologies, a changing economy, and other circumstances will have on vocational education as we move toward a new century. The Ad Hoc Committee for the Handicapped studied various changes in regulations as they affect services to special populations, and began drafting a policy statement on the handicapped.

The Council drafted and approved a policy statement on the Federal role in vocational education. The policy statement was incorporated into the Council's testimony to the National Commission on Excellence in Education at its hearing on education and work in September 1982 in Denver. During the year, the Council broadened its relationship with the private sector. Discussions were held at Council meetings with representatives of the business community on the need and opportunity for greater interaction between business/industry and vocational education. The Council also assisted the U.S. Chanber of Commerce in developing a handbook for employers on the wide range of vocational education programs at secondary and postsecondary levels. The handbook included case studies of successful cooperation between business and vocational education programs. This activity laid the groundwork for a series of regional hearings which the Council conducted in the spring of 1983 to hear from business and industry on their needs and expectations regarding vocational programs, and the opportunities for expanding the linkages between vocational education and the business community.

Under its broad mandate to advise on related employment and training programs, the Council reviewed in depth the new Job Training Partnership Act (JTPA), and began preparing materials to encourage and facilitate close cooperation between vocational education administrators and private industry councils under JTPA. The Council participated with the National Commission for Employment Policy in a national forum held in Detroit on the problems of displaced workers and the need for adult retraining efforts. The cross-representation and joint activity between the Council and the National Commission have been positive and useful, and are expected to increase in the future.

STATE AND LOCAL ADMINISTRATION

Vocational education is administered through a wide variety of State, Territorial, and local agency governance structures, delivery systems, and funding mechanisms. States are authorized to spend VEA funds for planning purposes and for State and local administration. States must plan their vocational programs to meet labor market needs, and programs must comply with civil rights' guidelines. Some other specific administrative issues include construction of area vocational schools, residential vocational schools, and contracting for vocational education. State and local advisory councils also affect the administration of vocational programs by providing advice on planning, operating, and evaluating vocational programs. Each of these topics will be discussed in the following sections.

Administration of Programs

State Administration

Oulays of Federal VEA funds to administer vocational education programs at the State level totaled $45.8 million in 1980-81. States also expended $63 million nonfederal funds for this purpose. A major portion of the funds was spent for salaries. State staff provided administration, supervision, accounting, system and program planning and evaluation, data collection, and clerical assistance to support vocational education programs. State

staff also provided a wide range of leadership activities: informing local agencies of policies and guidelines for implementing State goals; providing technical assistance and consultation services; advising local agencies on the development of their local plans; and helping with solutions to problems encountered in the day-to-day operation of programs.

State administration funds were also used to enhance the quality of vocational education programs in the State and to extend the use of labor market data in planning. State staff provided workshops to improve the professional skills of both State and local personnel, reviewed proposed research and innovative projects and monitored those selected for funding, and disseminated exemplary practices and curriculum materials produced by these projects. Vocational education data systems were upgraded and technical assistance provided to local agenices in the use of labor market data for planning.

Activities funded in 1980-81 with State administration monies also included assistance to local education agencies on the use of evaluation instruments, the dissemination of evaluation findings, and needs assessment.

Local Administration

Outlays in 1980-81 for the administration of local programs totaled $331.4 million, of which State and local funds comprised $321.9 million and Federal funds $9.5 million. This represents an overall decrease of $11.4 million from the 1979-80 outlays.

The bulk of local administration funds was used to pay the salaries, fringe benefits, and travel costs of staff who were responsible for administering and supervising local programs.

State Planning Funds

Section 102(d) of Public Law 94-482 permits each State to use those funds appropriated under this section to pay up to 100 percent of the cost of preparing its annual program plan and accountability report, including the collection of necessary data. Planning funds may also be used to pay up to 100 percent of the cost of evaluating programs funded under the Act. In 1980-81, planning funds were used primarily for the development of annual plans and accountability reports and the collection of data for inclusion in these documents. Use of planning funds, however, was not limited to data collection, but was extended to include development and refinement of vocational data systems in the States. Improvement of the systems subsequently improved the quality of data available to planners for making program decisions, and for fulfilling reporting requirements.

Evaluation activities supported with 102(d) monies focused on conducting program reviews and on related activities such as needs assessments, the assessments of the effectiveness of evaluation systems, analysis of evaluation data to determine program needs, and followup studies of former students.

In 1980-81, States expended $4,988,178 for State planning purposes compared to $2,993,779 in 1979-80. State and local funds accounted for 10.4 percent of the total in 1980-81 compared to 13.3 percent in 1979-80. The nearly $2 million increase in expenditures in 1980-81 was almost all Federal funds.

Occupational Information

The basic purpose of vocational education is to prepare persons for jobs that will be available in the labor market. The National Occupational Information Coordinating Committee (NOICC) and its related State Occupational Information Coordinating Committees (SOICC's) were established to assist State and local administrators of vocational education plan instructional programs that better meet labor market needs, and to assist teachers, counselors, and students in determining occupational career goals.

In 1982, NOICC received $3 million from the Department of Labor and $2.24 million from vocational education's programs of national significance budget to accomplish its goals. NOICC uses these discretionary funds to award grants to States for maintaining SOICC's, developing an occupational information system, and for developing career information delivery systems (CIDS). NOICC also awards grants for special purpose research that has national significance and affects the SOICC network.

One of the major objectives of NOICC and the SOICC's has been the development of occupational information systems to meet the needs of planners and administrators of vocational education. While all States have indicated that they have implemented an occupational information system, the comprehensiveness of data elements and degree of system automation vary among the States. NOICC undertook a major effort in 1981-82 to assist States in adopting comprehensive computerized occupational information systems developed by other States. These systems combine supply and demand data with occupational information such as wages, working conditions, and educational/experience requirements. These computerized systems make the information more accessible to planners, as well as making it easier to update informational elements as needed.

NOICC and the SOICC's have continued their emphasis on providing special attention to the labor market information needs of youth and adults by operating Career Information Delivery Systems (CIDS). In 1982, NOICC funded six additional States to develop statewide CIDS. The CIDS provide State and local information, through automated systems, to individuals who are in the process of career exploration and/or job search. NOICC has now awarded CIDS grants to a total of 21 States. See Appendix 5 for a list of the States and funds awarded.

CIDS are available in approximately 4,359 sites across the country. The number of user sites range from 17 in Vermont to 766 in Iowa. Over 74 percent of the sites are in secondary schools, and 8.1 percent are in postsecondary schools. Elementary schools, CETA, and vocational rehabilitation each comprise about 3 percent of the sites. Adult education has 4 sites, and correctional institutions 18.

In addition, NOICC works with the States to provide training to counselors in the use of labor market, career, and occupational information available through the States' CIDS in order to better meet the needs of their students. In 1982, NOICC awarded approximately $20,000 to each of 18 States. These projects, entitled "Improve Career Decision-Making (ICDM)," enabled States to conduct at least four training sessions for counselors. Through each State's Employment Security Commission, an addtional $10,000 from the Employment and Training Administration of the Department of Labor was made available for special materials for counselors. Six additional States (Louisiana, New Mexico, North Dakota, Oklahoma, Texas, and Wisconsin) provided similar training without NOICC funds. In these training sessions, over 2,000 counselors from secondary schools, community colleges, vocational rehabilitation, Job Corps, and CETA programs benefited from participation.

NOICC continued its efforts to promote coordination, communication, and training among Federal and State agencies that provide and/or use occupational information. NOICC participated in four regional workshops and conducted training in the use of occupational information in program planning for State vocational education staff. To provide further assistance to States, NOICC developed a training package for use at the State level on techniques for interfacing supply and demand information, analysis of occupational information, and the use of occupational information in program planning. The training package was pilot tested in two States in 1981-82 and will be offered to all States in 1982-83.

Another effort completed by NOICC in 1981-82 to help States was the revision of the Vocational Preparation and Occupations Handbook (VPO). The VPO incorporates the Department of Education Classification of Instructional Programs (CIP) taxonomy and provides a crosswalk between Major occupational and education program classsification systems , including Department of Labor and Census Systems. VPO is a significant resource document to assist States in grouping together supply and demand data for an Occupational Information System (OIS), for career exploration purposes, and for aiding curriculum developers.

Both NOICC and the Office of Vocational and Adult Education continued their involvement with the Military/Occupational Information Task Force during 1981-82. As a result, the Department of Defense has funded two projects: 1) a project designed to determine the extent to which military occupational information is included in the State Career Information Delivery Systems (CIDS), and 2) a project designed to develop a crosswalk between the military and other occupational classification systems.

Methods of Administration - Civil Rights

On March 21, 1979, the Office for Civil Rights (OCR) issued the "Vocational Education Programs: Guidelines for Eliminating Discrimination and Denial of Service on the Basis of Race, Color, National Origin, Sex and Handicap," mandated under the December 1977 court order in Adams v. Califano. The Guidelines provide procedures and assistance to vocational education administrators in meeting their obligations under Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and Section 504 of the Rehabilitation Act of 1973.

The States are required under the Guidelines to submit Annual Civil Rights Compliance Reports to the Office of Vocational and Adult Education (OVAE) each July 1st. These reports summarize State agency activities which implement the Guidelines in accordance with the Methods of Administration (MOA) developed by each State.

OVAE's review of the fiscal year 1981 reports indicates that all States have initiated civil rights compliance activities in accordance with the Guidelines. Several States were unable to fully implement the compliance activities set forth in their MOA's due to funding and personnel cutbacks and inexperience in working with civil rights compliance issues under this new Federal mandate. The OCR Regional offices have provided technical assistance to these States to improve their compliance programs and enable them to meet their obligations under the Guidelines. In addition, State agency personnel received training and technical assistance concerning the Guidelines through six regional workshops conducted by OCR in the spring of 1982. The workshops assisted State agency staff in developing effective oversight skills to meet their responsibilities under the Guidelines. Workshop participants were trained to select subrecipients for agency level reviews; conduct on-site reviews; negotiate and monitor compliance activities; and develop and implement a subrecipient technical asistance program.

Construction of Area Vocational Schools

Construction of area vocational schools includes the construction of new buildings; acquiring, expanding, and remodeling existing buildings; and other costs such as insurance and inspection fees. In 1980-81, 19 States spent a total of $80.9 million for construction, of which State and local funds represented $71.3 million and Federal funds comprised $9.7 million. The total amount expended decreased $55.4 million from 1979-80.

Residential Vocational Schools

Three States (Georgia, Kentucky, and Puerto Rico) spent a total of $5 million to operate residential vocational education schools in 1980-81. Federal funds comprised only $339,000 of this amount. In 1979-80, these States spent $4.6 million of which Federal funds comprised $770,000.

With the exception of one school which offered only agricultural courses, residential schools provided a wide range of vocational courses. Although the services of residential schools may be focused on a particular constituency (for example, isolated rural students), any person who is at least 15 years old but less than 21 years of age at the time of enrollment, and who needs full-time study on a residential basis, is eligible to enroll.

Contracting for Vocational Education

Recipients of State vocational education funds (including the State agency itself) may contract with private vocational training institutions, or with any other institutions, for delivery of vocational instruction. Contracting for instruction is authorized when a program is not available in the public institutions providing vocational education programs, or a

private institution can provide equivalent instruction at a lesser cost. Nine States reported spending $4 million for contracted services in 1980-81. Of this amount only $500,000 was Federal funds. This is a slight increase from the $3.8 million total and $460,000 Federal outlay in 1979-80.

Local educational agencies may enter into contracts for instructional services as the need exists at the local level. As a result, most contracting occurs at the local level. Local agencies most frequently contracted with private schools for instruction in cosmetology. Meat cutting, food services, and some machinist programs that require large, expensive equipment were other areas in which contracted instruction occurred.

State and Local Advisory Councils

State Advisory Councils for Vocational Education (SACVE's) and Local Advisory Councils for Vocational Education (LACVE's) were established by the Act to obtain the advice of a wide spectrum of individuals on planning, operating, and evaluating vocational education programs.

State Advisory Councils for Vocational Education

State advisory council members represent business, industry, labor, agriculture, education, consumers of educational services, and the general public. During the past 2 years, female representation increased significantly. Non-educators represented 60 percent of the membership and private sector representatives comprised 15 percent of the total membership in 1982.

In 1982, Federal allotments to State advisory councils remained unchanged from the 1981 total of $6.5 million. Individual council allotments ranged from $94,000 to $200,000, with the majority receiving $94,000. A few councils also received money from other sources.

One of the SACVE's primary missions is to advise State boards for vocational education on planning and policy development for the administration of vocational education. This activity is accomplished through Council involvement in the planning process, by the use of information gained in special studies conducted by the SACVE's, by SACVE-sponsored public hearings, and by SACVE interaction with the State employment and training councils.

Another primary mission for SACVE's is evaluation. In 1981-82, SACVE's evaluated vocational programs, services, and activities; assisted the State boards in developing plans for the boards' own evaluation of vocational education programs and services; and monitored these evaluations.

Annually, each SACVE comments on issues of greatest concern and makes recommendations for improving vocational education by preparing a required Annual Report. The 1981 Annual Evaluation Reports address several important SACVE concerns.

A number of recommendations focused on special needs and increased priority for all special needs groups. Recommendations were also made to expand bilingual programs, to identify and locate programs for displaced homemakers, and to implement plans for recruiting and supporting nontraditional students.

The SACVE's commented on several aspects of planning. Highlighted here was the need to enhance leadership for planning by 1) using area-wide coordination; 2) developing criteria to assure that new programs reflect labor force needs; 3) developing more explicit goals and objectives; and 4) identifying the agency best able to develop supply and demand data for use by all agencies.

SACVE's also assessed coordination among business, industry, labor, and education. Typical concerns included increasing the involvement of business, industry, and labor in planning; developing methods for vocational education to respond to reindustrialization, "quick start" funding, and other economic development concerns; involving business and industry in providing practical work experience for vocational education teachers; and focusing on the work ethic as a means to enhance job satisfaction, private enterprise, and entrepreneurship.

SACVE's also recognized the need for effective data for planning, development, and evaluation. SACVE's expressed support for improving data collection and use, and for including more data in the Accountability Report. Such data includes career information systems in the State Occupational Information Coordinating Committees, the self-employed in workforce statistics related to placement, and followup data on the placement of women who trained in nontraditional areas.

In addition to the foregoing activities, SACVE's provided technical assistance to Local Advisory Councils for Vocational Education.

Local Advisory Councils for Vocational Education

To receive Federal funds, a local education agency must have a functioning Local Advisory Council for Vocational Education (LACVE). Reports from SACVE's indicate the effectiveness of LACVE's has increased since the inception of the Act. SACVE's have assisted the local committees by providing technical assistance in the form of handbooks, workshops, and audio-visual aids. Some State agencies have also provided technical assistance to supplement that of the SACVE; and still other State agencies and SACVE's have established task forces to study ways to improve the effectiveness of LACVE's.

MANAGEMENT ASSISTANCE PROGRAM

In 1981-82, the Office of Vocational and Adult Education's (OVAE) Management Evaluation Review for Compliance/Quality (MERC/Q) was discontinued and a new program, the Management Assistance Program (MAP), was implemented. The MERC/Q, which had been operating for the previous 4 years, was used to analyze the strengths and weaknesses of programs assisted with Federal vocational education funds, and to evaluate the

extent to which States used procedures which were consistent with the law and regulations.

The new MAP is designed to assist the States in identifying their strengths and weaknesses in the operation of vocational education programs. The MAP consists of two phases: 1) a self-assessment by the State and 2) an on-site visit by selected OVAE staff. To assist the States in the self-assessment, OVAE sends out two sets of materials. The first set focuses on several statutory requirements which were found, through the former MERC/Q activity, to be the most troublesome for States and localities to administer and implement. The second set of materials includes guides for the States to use in assessing their performance within four broad functional areas: 1) general administration of vocational education, 2) vocational education program implementation, 3) vocational education program improvement, and 4) program services to special populations. Using both sets of materials, a State is then able to identify its strengths and weaknesses and determine its greatest needs for technical assistance.

When a State has identified its technical assistance needs, the MAP Coordinator initiates the second phase of the MAP process, the on-site visit by a team of OVAE staff members. During the on-site visit, technical assistance is provided that aids the State in overcoming any weaknesses identified through the self-assessment process.

In 1982, seven States participated in the Management Assistance Program. Each State completed the self-assessment by evaluating its policies, procedures, goals, objectives, activities, and accomplishments in relation to pertinent regulations. The States indicated a need for technical assistance in 20 different regulatory categories. However, the following were the most troublesome regulations, and they all related to the fiscal process:

- o funding of State and/or local administration;
- o distribution of funds among eligible recipients;
- o Federal share of expenditures for local administration;
- o expenditures for persons with limited English proficiency;
- o maintenance of fiscal effort (local education agencies); and
- o maintenance of fiscal effort (postsecondary institutions).

The States requested technical assistance in several other program areas: 1) cooperative programs for students in nonprofit private schools; 2) vocational education programs for disadvantaged persons; and 3) programs for disadvantaged students in nonprofit private schools. The States' self-assessments also identified the need for technical assistance in program administration. States requested assistance in collecting and using data for local level planning; evaluating local programs; developing a more effective system for evaluating local programs; making greater use of evaluation results for program improvement; and identifying fiscal

management policies and procedures important to the improvement of the States' administration of vocational education.

The Management Assistance Program was designed to enable OVAE to focus technical asistance more effectively on needs identified by States by targeting scarce Federal resources to provide more help to the States at lower cost.

AUDITS

In 1981-82, the Office of Vocational and Adult Education (OVAE) reviewed audit reports involving 18 States. The auditors questioned the use of $63.7 million of Federal monies in 15 of the 18 States. OVAE sustained approximately $10.7 million of the auditors' findings in seven States. One of these States had four audit exceptions that remained pending. The other 12 States' audits were still being processed at the end of the year.

During 1981-82, one State filed an appeal of its audit report to the Education Appeal Board of the U.S. Department of Education, and two other States had appeals pending with the Board. Two States requested partial recovery ($66,000) of the funds they returned ($88,000) as permitted by the grantback provisions of the General Education Provisions Act.

Although all audit findings showed that the States generally administered their vocational education programs in accordance with the statute and regulations, there were several common audit exceptions in the final audit reports. The most recurrent financial problems were as follows:

- o failure to obligate funds during their period of availability (before the funds had lapsed);
- o failure to maintain effort at the local level; and
- o failure to maintain an appropriate time distribution system for employees who work on more than one Federal program, or failure to maintain a cost allocation plan.

The most recurrent administrative, or procedural, problems were as follows:

- o inefficient financial management practices, including failure to maintain supporting documentation;
- o inaccurate, inconsistent, or untimely reporting; and
- o improper internal accounting procedures.

The 18 audit reports reviewed during 1981-82 were examined in relation to the 20 closed audits from 1977-78 to 1980-81. Audits from previous fiscal years gave greatest emphasis to the fund distribution process for basic grants, local program evaluations, and local program audits. The 1981-82 audits, while requesting large refunds from the States, focused primarily on administrative procedures relating to reporting, records retention, accounting, and internal controls, as shown above.

II. IMPACT OF VOCATIONAL EDUCATION IN 1981-82

The first part of this report described the status of the vocational education enterprise in terms of the requirements of the Vocational Education Amendments of 1976. This part will attempt to show the impact of vocational education by: 1) discussing some studies on the effects of participating in secondary vocational education; 2) describing vocational education's response to economic development needs through "quick-start" training programs; and 3) listing specific examples of successful vocational programs.

THE EFFECTS OF PARTICIPATING IN SECONDARY VOCATIONAL EDUCATION

Accurate information and analysis on the effects of vocational education in the United States have been in short supply for many years. In response to these needs, the National Center for Research in Vocational Education, under contract with the Department of Education, produced a series of studies on the effects of participating in secondary-level vocational educaton. Several reports of this series were produced in 1981-82:

Campbell, Paul B.; Gardner, John A.; Seitz, Patricia; Chukwuma, Fidelia; Cox, Sterling; and Orth, Mollie N. Employment Experiences of Students with Varying Participation in Secondary Vocational Education. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1981.

Campbell, Paul B.; Gardner, John A.; and Seitz, Patricia. Postsecondary Experiences of Students with Varying Participation in Secondary Vocational Education. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1982.

Gardner, John A.; Campbell Paul B.; and Seitz, Patricia. Influences of High School Curriculum on Determinants of Labor Market Experiences. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1982.

McKinney, Floyd L.; Franchak, Stephen J.; Halasz-Salster, Ida M.; Morrison, Irene; and McElwain, Douglas. Factors Relating to the Job Placement of Former Secondary Vocational Education Students. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1981.

Mertens, Donna M.; Seitz, Patricia; and Cox, Sterling. Vocational Education and the High School Dropout. Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1982.

Other reports on this topic include Does Vocational Education Make a Difference? by Woods and Haney of the Huron Institute for the National Institute of Education, and four reports written by Robert Meyer of the Urban Institute for the National Commission for Employment Policy. In addition to these reports, a recent evaluation of the products of the National Center was completed by Technassociates. As the results of these studies have already been widely disseminated, these studies will not be discussed here.

The following summarizes each of the National Center's reports.

Employment Experiences of Students With Varying Participation In Secondary Vocational Education

This study used a new specification of participants in vocational education to estimate the effects of high school curriculum on the labor market experiences of youth. The new specification was developed in an earlier paper as part of this same project, and it involved identifying five patterns of vocational education participation. The patterns of participation were developed by operationalizing five descriptive concepts that reflect the variability of vocational participation. The concepts included intensity of training, continuity of training, proximity of training to time of graduation, diversity of program areas in which training was received, and the addition of logically related study outside the main area of specialization. Cases were assigned to a pattern group based on the scores obtained from transcripts for these concepts. The five pattern groups were labeled Concentrator, Limited Concentrator, Concentrator/Explorer, Explorer, and Incidental/Personal and were ordered by the degree of involvement in vocational education.

Estimates were derived in the present paper for effects on earnings, training-related placement, labor force status, job prestige, and other characteristics.

Job characteristics examined were those associated with Holland's classification of jobs. Participation in vocational education with some concentration was found to be significantly more likely to be associated with employment in Holland realistic or Holland conventional jobs than was incidental participation or no participation in vocational education. As one considers patterns of participation in order of increasing concentration in vocational education, conventional jobs are a progressively larger share of all jobs held by participants who fit the pattern. Among the three concentrator patterns, the proportion of realistic jobs out of total jobs held by participants in any pattern declined by almost enough to offset the decline in the share of conventional jobs. Only Incidental/Personal and No Vocational Participation patterns displayed a different relationship between conventional and realistic jobs. The general educational development and specific vocational preparation needed for most of the jobs for which vocational education trains students can be accomplished within the present kindergarten to 12th grade public education system. The majority of jobs for which vocational education prepares students were found to be in the lowest prestige category of Siegel's job-prestige scale and, for each gender, to have the lowest median earnings.

The largest single influence on labor market status was found to be the respondent's race. Being minority reduces the likelihood of being employed nearly 28 percent. Most of the minority respondents were unemployed rather than out of the labor force (not looking for work). The next most important influence was found to be the respondent's sex. Being female was found to increase the likelihood of being out the labor force by 21 percent, with females having no significant difference from men in being employed or unemployed. The three concentrator patterns of participation in vocational education were found to be associated with an increased likelihood of being employed and a decreased likelihood of being outside the labor force. But these estimated impacts were not statistically

significant. The only statistically significant estimated effect found for the patterns of participation was that the three least intensively involved patterns reduce the likelihood of being in the labor force.

Incidental/Personal and Concentrator/Explorer participants were substantially less likely than Concentrators or Limited Concentrators to be in training-related employment. Concentrators had the highest likelihood of being in training-related employment. Vocational students with a specialty in the office and business area were more likely to be out of the labor force, whereas students trained in the trade and industry area were more likely to be in the labor force even after allowing for the effect of gender on labor force participation. Trade and industry specialists were more likely to be unemployed than were office and business graduates.

Regression equations allowing for the characteristics of jobs as well as background characteristics of the respondent were found to explain a significant portion of the variation in weekly earnings from its mean. Patterns of participation in vocational education only contributed in a statistically significant way to the explanation for women Concentrators. Among respondents with exactly 12 years of education who were not currently enrolled, white and minority women Concentrators earned, respectively, about $20 and $40 more per week than respondents who took no vocational courses. When job characteristics were omitted from the equation, the total effect was estimated to be between $25 and $60 per week for women Concentrators. Male Concentrators and Limited Concentrators tended to have lower earnings than other not currently enrolled males who completed exactly 12 years of education, but the differences were not statistically significant.

Training-related placement for vocational participation was associated with higher weekly earnings for all respondents, but the estimates were not statistically significant. White males who specialized in agriculture reported significantly higher weekly earnings. Since most women in the sample who had a specialty were in the office area, the estimated effects for women Concentrators reflect primarily that area of specialty.

Postsecondary Experiences of Students With Varying Participation In Secondary Vocational Education

The principal objective of this report was to examine the effects of secondary vocational education on the post-high school educational activities of youth. The following are the major highlights of the analyses.

- A majority of high school graduates, both vocational and nonvocational, enroll in some type of postsecondary program.

- Higher levels of educational aspirations were associated with higher probabilities of postsecondary participation. This was true for attendance in 4-year colleges and in all postsecondary programs combined. In fact, educational aspirations explained a larger proportion of postseconday behavior than any other variable.

- Less frequent participation in postsecondary programs was found for minority youth with at least some vocational experience. There was, however, no pattern of significance that suggested that more intensive vocational preparation was systematically associated with reduced levels of postsecondary attendance. For whites, secondary vocational education does not seem to reduce overall postsecondary participation, although it does influence the type of postsecondary program pursued.

- Additional factors which positively influence postsecondary participation include class rank and, for whites only, parents' education. Living in the West was associated with a higher attendance in 2-year colleges, and, for certain subgroups of the youth population, a higher unemployment rate and residence in a rural area showed an increased likelihood of postsecondary participation.

Influences Of High School Curriculum On Determinants Of Labor Market Experiences

As national economic policy has placed increasing emphasis on microeconomic solutions to labor market problems, interest has grown in measuring the labor market effects of secondary vocational education. Recent efforts to measure those effects by applying rigorous statistical analysis to national survey data have found at least three results that seem to be consistent across the studies and to be puzzling to researchers and policy makers.

- First, the evidence is mixed as to whether male vocationally educated high school graduates (especially white males) earn significantly more per hour or per week than otherwise similar nonvocational graduates.

- Second, the effect of secondary vocational education on the hourly or weekly earnings of women in commercial or office specialties is more consistently and significantly positive than for men.

- Third, the longer is the period to which the earnings measure applies, the greater are any apparent advantages associated with secondary vocational training either for men or women.

This report extends previous research on labor market effects of vocational education by explicitly modeling the intervening factors in the relationship between secondary vocational education and labor market outcomes. The estimated model shows that vocational education may have both direct and indirect effects on earnings, income, and unemployment, and that the indirect effects operate through such intervening factors as job search methods, unionization, industry, occupation, job tenure, labor market experience, and postsecondary education.

Job Search Strategies and Patterns of Participation

- Concentrators make above average use of State employment services.

- Concentrators make above average use of advertisements.

Success Rates of Job Search Strategies

- Job search success through State employment services is inversely related to secondary vocational training.
- Concentrators are unusually successful users of newspaper advertisements.

Strategy Use and Educational Enrollment

- School employment services are primarily used by those enrolled, and rarely serve the job search process after graduation or school leaving.

Strategy Use by Race and Sex

- Black males and females are higher than average users of relatively unsuccessful employment services.

Strategy Use and Reason for Search

- Those who have lost their jobs or are unemployed for other reasons tend to turn to the relatively unsuccessful State employment services.

Multiple Job Holding

- Concentrators are more likely than other pattern groups to hold multiple jobs for 4 or more months; Concentrator/Explorers, Explorers, and Incidental/Personal graduates are slightly more likely to report working in multiple jobs at least 3 months.

Number of Jobs

- For men who concentrated in vocational education there is a lesser tendency than other male graduates to have held four or more jobs. There is no clear trend in the number of jobs held for women.

Weeks in the Labor Force

- In general, persons with any level of concentration in secondary vocational education are more likely than Incidental/Personal and nonvocational youth to be in the labor force for a full year. Differences between the concentration groups are noted, however, within the male and female samples.

Weeks Worked and Weeks Unemployed

- Overall, males with any substantial investment in vocational education are more likely than other men to report working at least

half of the year whereas among females the groups which exhibit similar tendencies are Concentrators and Limited Concentrators.

- Both males and females with a concentrator-type vocational background consistently report a higher likelihood of never being unemployed than the overall within-sex estimates.

Tenure

- For males and white females who have not been students for at least 2 years, higher vocational concentration is associated with 1 to 2 months longer job tenure.

Job Separations

- No clear relationship emerges for men or women between concentration in vocational education and the frequency of either voluntary or involuntary job separations.

Occupation

- Males with secondary vocational training are more likely than average to be in craft occupations.

- Females with secondary vocational training are more likely than average to be in clerical occupations.

Industry

- Male Concentrators, who are heavily represented in the agriculture specialty, are more likely to be employed in that industry.

- Male and female Limited Concentrators have above average representation in the construction industry.

Job Content

- Secondary vocational education is associated quite strongly with middle level job content.

Job Family

- Female Concentrators and Limited Concentrators move into the clerical job families in relatively higher proportions than other female graduates.

- There is a trend for males with substantial vocational concentration to be employed in the nonspecialized tool job family.

Job Class

- Male Concentrators are above average in self-employment.

Full-time/Part-time Jobs

- Male vocational Concentrators are significantly more likely than other graduates to work either 35 to 60 or more hours per week; females with a similar vocational experience are also more likely to hold full-time jobs and less likely to work part time.

Unionization

- Male Concentrators are much less likely than other men to be in unionized jobs; female Concentrators are neither more nor less likely than other women to be unionized.

Size of Firm

- Though neither tendency is very strong, among men, vocational concentration is associated with less frequent employment in large firms, and among women the relationship is reversed.

Shift Employment

- For both men and women, higher concentration in vocational education is associated with more frequently working regular day (or evening) shifts rather than night, split, or varying shifts.

Fringe Benefits

- There is a weak tendency for respondents with some vocational concentration to be more likely to have paid health or life insurance or paid vacation.

Earnings and Income for Men

- In cross tabulations, male Concentrators exhibit disadvantages in mean but not median hourly earnings when compared to graduates who have no vocational credits.

- Advantages in annual income of between $1,000 and $2,000 per year are shown for male Concentrators in the full sample of respondents.

- That income advantage is partly due to postsecondary educational involvement of nonvocational graduates. This is apparent because the advantages over students with no vocational credits persist but are smaller when only respondents who have not recently been students are considered.

Earnings and Income for Women

- In cross tabulations, the absence of differences across patterns of participation in hourly earnings among women are attributable to exceptionally high earnings of some nonvocational graduates who work less than full time weeks.

- When only women who usually work more than 35 hours per week are considered, Concentrators show mean earnings that are $.30 per hour above those women who have no vocational credits and median earnings advantages that are even greater.

- Both mean and median annual income for women show a consistent pattern of higher income with greater concentration. That relationship holds even among women who have worked at least 39 weeks in the preceding year.

White Males

- Direct effects of concentration decrease hourly earnings of white males by about 10 percent for Concentrators who do not specialize in agriculture or trade and industrial programs. For those specialists the reduction is only 4 percent. For Limited Concentrators and Concentrator/Explorers who specialize in trade and industrial education, earnings are increased by between 4 and 6 percent.

- The largest indirect effect for white men decreases earnings by up to 4 percent because it reduces the liklihood of being in a unionized job.

Minority Males

- Direct effects decrease earnings substantially for minority male Limited Concentrators and Concentrator/Explorers.

- For minority males, indirect effects through unions tend to reduce earnings; those through education, transportation, construction, and manufacturing increase earnings.

White Females

- White female Concentrators have substantial earnings advantages over other women.

- Indirect effects through tenure, experience, transportation, trade, finance, and unionization increase the earnings advantage for white female Concentrators.

Minority Females

- Minority women's earnings are increased by indirect effects through tenure, experience, transportation, trade, finance, public administration, and unionization.

- The largest impact for minority women is a direct effect of 11 percent for office specialization on earnings.

The results from the tables and the regression analysis suggest the following answers for the questions raised by the three consistent but puzzling results noted here:

- Differences in median earnings suggest even greater similarity between vocational and nonvocational students than one would infer from mean earnings data. The failure to find positive direct or total effects for men on hourly earnings is not the result of vocational education being irrelevant to labor market outcomes. It occurs primarily because of negative direct effects on earnings and because of four indirect conflicting tendencies that offset each other.

- Differences in the apparent effects of vocational education for men and women are attributable to basic differences in the labor markets in which members of each sex usually find work. Vocational education apparently is more successful for women than for men in directing its students into industries and occupations that are well paid (compared to other jobs traditionally held by women). Also, being in a unionized job creates a smaller differential for women than it does for men, and there is no tendency for women vocational graduates to be less likely to be in unionized jobs.

- Relative advantages in annual earnings for vocational graduates are attributable to longer average hours worked and to a higher average number of weeks worked per year.

Indirect effects on earnings of vocational education, although not negligible, are also not dramatic. No single indirect effect accounts for more than about a 5 percent difference in earnings. But in circumstances in which total differentials are at most 10 to 15 percent, even a source of a 1 percent differential is not trivial. Vocational education at the secondary level can, therefore, probably make a significant, but limited, contribution to improving productivity and reducing income inequality. Vocational education differs substantially between whites and minority graduates in its capacity to foster longer job tenure, more labor market experience, and greater labor market stability. Several separate findings in this study suggest that a heavy emphasis should not be placed on hourly earnings alone as an evaluative criterion for vocational education. Compensating differentials in earnings may be important, for there are ample indications from this study that the presence of compensating differentials may cause hourly earnings to understate the benefits that accrue to vocational graduates.

Factors Relating To The Job Placement Of Former Secondary Vocational Education Students

Historically, vocational education has been evaluated on the basis of the number of former students placed in jobs related to the training they received. This study attempted: 1) to identify factors relating positively or negatively to job placement; 2) to provide detailed descriptions of the educational and community processes appearing to influence job placement; and 3) to generate hypotheses concerning variables relating to job placement.

The study impressions should not be regarded as generalizations. At best they are working hypotheses, to be tested again and again in the ever-changing context in which vocational education programs operate. Based on the analysis of the qualitative and quantitative data it appears that higher job placement seems to exist in those schools where:

- Administrators, counselors, and teachers developed a clear understanding that the primary purpose of the vocational education programs in their school system was the placement of former students in jobs related to their training. In general, job related placement is not believed to be the primary purpose of secondary vocational education programs by educators, students, parents, or employers.

- Administrators, counselors, and teachers in a school system are consistent with each other concerning their belief that the purpose of vocational education is the placement of students in jobs related to their training.

- Principals are committed to the placement of former vocational education students in jobs related to their training program.

- There is a high level of staff enthusiasm for job placement.

- Student admission to vocational education programs is restricted to students with high interest and high potential.

- Teachers are committed to the position that they have a great amount of responsibility for placing students in jobs related to their training.

- Cooperative vocational education programs actually place students in jobs related to their training programs.

- There is a high demand for workers in the surrounding labor market area. Labor market conditions over which vocational educators have no control are at least as important as the nature of vocational education itself in determining job placement.

- Manufacturing is a major industry in the community in which the school is located.

- There is a mix of industry sizes with proportionally less large industry in the area served by the school.

- The school is located in a community with proportionally more nonwhites in the population.

- Frequent use is made of needs assessment surveys for planning and evaluating vocational education programs.

- o Teachers have regular contact with employers regarding the job placement of students.
- o Students participate in youth organizations.
- o The job placement office provides coordination and includes teachers in job placement activities.
- o Students are provided training in job-readiness skills.
- o The school staff resembles the racial balance of the community served.
- o Students acquire the basic education skills needed to obtain a job and to perform on the job.
- o Transportation to jobs is available.
- o The vocational education curriculum is oriented to the needs of employers.

Vocational Education and the High School Dropout

For more than a century, proponents of vocational education have claimed that it provides a practical alternative to students who are bored and frustrated by an academic curriculum. The present study used the New Youth Cohort of the National Longitudinal Surveys of Labor Force Behavior (NLS Youth) in an attempt to untangle the many interrelated influences and determine the independent effects of taking vocational courses on retention. In addition, the study explored the labor market effects associated with participating in vocational education and dropping out of high school.

Retentive Effects of Vocational Education

Ordinary least square (OLS) regression analysis was used to partition the sample into two groups—one with a high probability of dropping out and one with a low probability. Analyses to determine the retentive effects of vocational education focused on the high probability group, i.e., those most likely to leave high school without graduating. Separate OLS and probit regression analyses were used to determine the effects on completion of the next grade level of taking vocational education in grades 9, 10, and 11, while controlling for the individual, family, contextual, school, and high school experience variables.

Based on regression results for the high probability group, the vocational education coefficient always had the expected relationship with dropping out of high school. All else being equal, the more vocational education students had taken, the less likely they were to drop out of school. This relationship was statistically significant in grades 10 and 12, and negative but not significant for grade 11. Although the relationship was significant for grades 10 and 12, the size of the effect was small. In both grades 10 and 12, obtaining one vocational credit was associated with about a 10th of a percent reduction in the probability of dropping out.

Several hypotheses were explored to examine the meaning of these results. One possible scenario concerned the age of the students and the availability of vocational education. Ninth grade vocational education may have helped retain students in the 10th grade because it offered them an alternative to an irrelevant academic curriculum, and the majority of the students were young and not yet feeling financial pressure. Tenth grade vocational education may not have had this strong retentive effect because the majority of the individuals had reached the legal age for leaving school and were starting to feel pressure to work and make money. In addition, most vocational education programs did not become available to students until the 11th and 12th grades. It could have been that the limited vocational offerings available in the 10th grade were not a strong enough influence to overcome the legal age and financial pressures felt at that time. Eleventh grade vocational education may have had a significant retentive effect for grade 12 because of the greater variety of vocational offerings that were available in grade 11.

All major components of the explanatory model, except contextual variables, contained elements that were significantly related to dropping out of high school. It was not clear why the contextual variables were not significant, as they had been found to be so by other researchers. The many independent variables related to dropping out of high school served to emphasize the complexity of this issue.

Labor Market Effects of Vocational Education and Dropping Out of High School

Regression analysis was also used to examine the effects of vocational education, dropping out of high school, and the interaction of these two elements on labor market experiences.

The interaction of vocational education and dropping out of school had a significant effect on decreasing job satisfaction for females. Based on OLS, this interaction was significantly associated with a reduction in unemployment. However, the results of the probit analysis did not confirm this finding. It did not have a significant effect on any of the other labor market variables for females, and its effect did not appear to be significant for males on any of the labor market variables.

Increases in participation in vocational education for all females were significantly associated with holding jobs with higher occupational prestige, lower unemployment at the time of the interview, higher training-related placement, and lower weeks of unemployment in the year between interviews. For all males, vocational education was significantly related to higher occupational prestige, higher job satisfaction, greater training-related placement, more hours worked per week, and higher weekly wages. Other than the nonsignificant earnings effects for females, the findings were generally in line with those reported by other researchers (Campbell et al. 1981; Grasso and Shea 1979; Mertens and Gardner 1981). In other studies, females were reported to have earned more per hour if they had exactly 12 years of education and graduated from a business and office program. These differences may have been accounted for by the fact that vocational program areas were not included in these analyses, and that postsecondary experiences were controlled by inclusion of the variable

"number of years of school." For males, the relationship between higher occupational prestige and vocational participation has not been consistently reported by other researchers.

Based on OLS analyses, dropping out of high school was associated with significantly higher unemployment rates for both sexes. Probit analysis confirms this effect for males, but not for females. Female dropouts also experienced a significantly lower hourly rate of pay. Male dropouts experienced significantly more weeks of unemployment and worked fewer hours per week. Unemployment was the most consistently mentioned problem for the dropout (King 1978; O'Malley et al. 1977; U.S. Department of Labor 1981).

Other personal and contextual variables had significant relationships with labor market variables. Being black, living in a rural area, or having low self-esteem had a consistently depressing effect on the labor market indicators for both sexes, while being older and living in the West had the opposite effect. Other personal variables that consistently influenced females, but not males, included early marriage, late childbearing, involvement with drugs, and being Hispanic. Males appeared to have benefited more from living in a community with a high percentage of manufacturing, and to have experienced more involvement with the criminal justice system.

The results of the present study provided evidence that participation in vocational education was influential in preventing high school dropouts. Although the size of the effects was small, these findings corroborated those of previous researchers. In addition, participation in vocational education, when combined with completion of high school, appears to influence the one most consistently reported problem of dropouts, i.e., unemployment. Although the size of the effect was small, females with vocational training had significantly lower unemployment rates than their peers without vocational training; for vocational males the rates were also lower, but not significantly so.

QUICK-START ECONOMIC DEVELOPMENT PROGRAMS

The term "quick-start economic development program" generally means a publicly supported program designed to provide customized training for specific firms. Individual training programs are generally coordinated with other economic development authorities, are relatively short-term, and can be started within 15 to 30 days.

The following information is derived from an informal Office of Vocational and Adult Education survey, and includes only those programs operated by the State boards for vocational education.

Quick-start economic development programs are spread out over the Nation. Table 25 lists the 20 States and Puerto Rico which have established programs where 1) the State board for vocational education has the authority under law to operate and administer the program; 2) the program is considered separate from the regular vocational and adult education program; and 3) the State functions are identifiable.

Table 25. -- Quick-start economic development programs, by State 1981-82

State	Name of program
Alabama	Alabama Industrial Development Training Institute
Arkansas	Arkansas Industry Training Program
Florida	Industry Service Training Program
Georgia	Quick-Start
Idaho	New Industry Training Program
Illinois	High Impact Training Service
Indiana	Training for Profit
Iowa	New and Expanding Business and Industry Training
Kansas	New and Expanding Industry Program
Kentucky	Kentucky Industrial Training
Michigan	Economic Job Development Program
Mississippi	Industrial Services
Missouri	Industry Training Program
New Mexico	In-Plant Training
New York	Short-Term Training Programs/Economic Development
Ohio	Industrial Development Expansion Program
Oklahoma	Training and Industry Program
Pennsylvania	Customized Job Training Program
Texas	Industrial Start-Up Program
West Virginia	New and Expanding Industry Training and Services to Business and Industry
Outlying Area	
Puerto Rico	High Skills Education Program

SOURCE: Individual State directors of vocational education or their respective delegates.

Of the remaining 30 States and the District of Columbia, a few satisfied one or two of the three premises listed above, but none met all of them. This does not mean, however, that these States are not carrying out any quick-start economic development programs. With only a few exceptions, almost all States are involved to some degree in quick-start economic development activities.

Quick-start economic development programs are predominantly State funded. In 1981-82, 11 of the previously listed quick-start economic development programs were totally State funded, and 17 States and Puerto Rico reported the use of some State funds for their programs. Eight States (Alabama, Georgia, Indiana, Mississippi, New Mexico, Ohio, Oklahoma, and Pennsylvania) each used $1 million or more of State funds for quick-start economic development programs in 1981-82.

Six States (Florida, Illinois, Indiana, Kansas, Ohio, and West Virginia) and Puerto Rico used Federal funds for their programs in addition to State funds. New York and Ohio each used more than $1 million of Federal funds

for their respective programs. The programs in Iowa, Michigan, and New York were totally supported with Federal funds.

Michigan and Ohio reported that some of their funds for quick-start economic development programs came from businesses and industries. Local educational agencies also contributed small amounts of funds to support quick-start programs in many of the States. Businesses and industries and local educational agencies often provided in-kind contributions such as facilities, training sites, or instruction.

The total estimated amount of funds for quick-start economic development programs in the 20 States and Puerto Rico was $28.8 million, and ranged from a high of $7,657,708 in Ohio to a low of $100,000 in Idaho. The States with the largest amount of total funds for quick-start economic development programs in 1981-82 were Alabama, Florida, Georgia, Indiana, Michigan, Mississippi, New Mexico, New York, Ohio, Oklahoma, and Pennsylvania. The States with the smallest amount of total funds for quick-start programs were Idaho, Kansas, and Missouri.

An estimated 110,000 persons were served by quick-start economic development programs in the 20 States and Puerto Rico. The States varied widely in the number of persons served, from approximately 60,000 in Ohio to fewer than 2,000 in each of 10 States. Generally, the larger the funding level, the more people served.

Most quick-start economic development programs were designed to assist new and expanding industries. Usually the programs assisted existing industries as well. The following examples show the variety of activities included in quick-start programs.

Florida When a foreign company (a multi-million dollar project) recently decided to locate in Florida, the State vocational education agency and the State economic development group worked together to develop a training program. The State vocational education agency was responsible for providing the necessary training, equipment, and the expertise for establishing the curriculum.

Georgia To induce a company to settle in Georgia, the Georgia Industry and Trade Department jointly review the company's training needs and promise a trained workforce. Just recently, an outside company established a $90 million plant in Georgia, which now employs 900 people, all trained through the cooperative efforts of the Georgia Industry and Trade Department and the State vocational education agency. The Georgia Industry and Trade Department is currently working with several international companies to settle in the State. The quick-start program will be called upon to train the employees of these companies.

Idaho Recently when a mining company (with a high priority for welding) decided to locate in Idaho, the private industry council, the State board for vocational education, and the company itself shared the cost of training. Representatives of the State vocational education agency went to the State where the original mine was located and tailored the training program based on that operation. The company constructed a facility in Idaho and 28 people were trained.

Illinois The High Impact Training Service (HITS) program in Illinois is designed to serve existing industries in the State. It is considered to be a part of the regular, ongoing vocational and adult education program which is tailored to individual industries. The program is delivered by the local community college centers or through the local vocational high schools, and provides about 1,000 to 1,500 people with new jobs per year.

Indiana The Indiana State board of vocational-technical education employs a State coordinator of training and economic development programs. This person coordinates the work of five work-analysis specialists and five contract specialists. These specialists make inventories (performance oriented task analyses) to determine the training needs of employees. The coordinator works with other educational agencies and with the industry itself to identify the resources needed. A budget is developed, with various funding methods, and the schools and institutions in the State that are capable of delivering the training are identified. A program can be started in 3 days. Approximately 70 businesses were served in 1981-82.

Missouri Through its Industry Training Program, Missouri provides training services for industries that relocate in the State. Local people generally transfer to the company and are retrained for their new jobs.

Ohio Although the Industrial Development Expansion Program in Ohio is designed to aid both new and existing industries, a main thrust of the program is to help existing industries expand. Recently, a company considering relocating to another State later decided to stay when the State vocational education agency and the Ohio Department of Economic and Community Development stepped in. They persuaded the company to stay in the community (population approximately 15,000 people) by promising to train 1,000 people within 3 to 4 months. The training is presently underway.

In another example, an international corporation located in Ohio employing some 12,000 workers considered moving 6,000 jobs to another country if the company could not become more productive. Management training was provided, and the 6,000 jobs were saved.

The Kansas State Department of Education performed a cost analysis of five of its training programs. The Department found the cost per trainee hour for 1981-82 to be $1.12. The Mississippi State Department of Education also did a cost analysis of its training programs. It found that the training cost per person ranged from $85 to $110.

Each of the 21 State directors of vocational education in this survey indicated that the quick-start economic development program in their State or Outlying Area had a significant impact on the economy of their particular State. Both industrial and economic development were reported to have been strengthened as a result of the programs. Economic wage gains were reported, as well as overall economic gains for particular communities. State directors of vocational education reported that more workers were being employed, and several State directors believed that the quick-start programs were responsible for slowing down the migration of workers to other areas.

The National Center for Research in Vocational Education published a study in June 1982 entitled, "Customized Training for New and Expanding Industry — A Vocational Education Role in State and Local Economic Development." This study described efforts in three States to use customized vocational training for specific client firms as part of economic development efforts. Some of the major findings of the study are as follows:

- o programs vary in terms of centralization and use of single versus multiple agencies as providers.
- o rapid response to client firms' needs is of utmost importance, and streamlined decisionmaking processes are needed to avoid delays in responding to these needs.
- o linkages and collaborative relationships with other agencies such as chambers of commerce, Private Industry Councils, and State Departments of Economic Development are important and should be cultivated.
- o facilities and equipment must be up-to-date and flexible to accommodate a wide variety of training programs.
- o client firms in all three States were highly satisfied with the services they received.
- o most client firms would have conducted training in the absence of State services, but reported that their in-house programs would have been less comprehensive and of lower quality.
- o customized training was reported by client firms to have been one of a number of factors influencing location and expansion decisions.

EXAMPLES OF SUCCESSFUL VOCATIONAL EDUCATION PROGRAMS

The following examples of successful vocational education programs have been selected by OVAE staff because the program won the 1982 Secretary's Award for Outstanding Vocational Education Programs, or because the program was judged exemplary or innovative by OVAE's national program experts or their State counterparts.

Agriculture Education

In Section High School in a small rural area of northern Alabama, passive solar greenhouses are being used by vocational agriculture students as a part of their supervised occupational experience for home improvement projects and for adult classes. In addition, the greenhouses are helping to conserve energy. The first three greenhouses were constructed with funds and recycled materials gathered from throughout the community. Later, a grant provided funds for students to construct a 10' x 60' greenhouse attached to the vo-ag building. Interest in the project grew as people in the community learned of the success and benefits of the solar greenhouses. To date, 22 solar greenhouses have been constructed and used for growing vegetables and other plants for sale or consumption. Several

of the greenhouses have been constructed as a community service for families with low or fixed incomes. This vocational program has not only provided students with occupational experience, it has promoted energy conservation, student initiative, and services to the local community.

At the Booker T. Washington High School in New Orleans, Louisiana, 87 vocational agriculture students are receiving training in an urban greenhouse. Many of these students are disadvantaged and are receiving training that is not otherwise available to them. This is a 4-year program which covers broad topics in the 9th and 10th grades. At the 11th and 12th grades, students specialize and gain lab experience during school hours and on the job. Students are placed with florists and local businesses which seek to develop qualified personnel for landscaping, taking care of plant materials, and other related jobs. Several students from this program are now successful horticulturists, businessmen and women, educators, and college graduates. This program serves both disadvantaged and nondisadvantaged urban students, and also provides local business and industry with trained potential employees.

Business Education

Oklahoma is conducting a program to meet the training needs of adults in vocational business education. Tinker Air Force Base requested assistance with training their clerical personnel in an on-base classroom setting. In 1980, the Oklahoma State Department of Education entered into a contract with Tinker Air Force Base to provide a 40-hour training program on military correspondence. The program used the military regulations as the basis for the curriculum.

In 1982, the program was expanded to include training in files documentation and publications. In 1983, the program was extended again to include a total secretary program.

Approximately 1,000 of Tinker's clerical personnel have participated in one or more of these programs. The State Department of Education's contract provided for substantial recovery of the costs of the program, and information from Tinker indicates that this cooperative training effort has been very successful.

Central Community College, Nebraska offers students the option of an Associate of Applied Science Degree, diploma, certificate, or individual courses in the data processing program. The curriculum is designed to provide students with the fundamental knowledge needed for employment in the data processing industry. The program also provides the opportunity for considerable hands-on experience and use of modern, up-to-date processing equipment. The program includes operations, data entry, microcomputers, and other areas.

The college's unique individualized instruction method allows students to progress at a rate compatible with their ability and potential. A continuous enrollment policy makes it possible for students to enroll in and begin their instruction any day that classes are in session and space is available. Each year, over 450 students are enrolled on three campuses. Individualized instruction and the open-entry, open-exit enrollment policy

provide the most flexible system to meet individual student needs. Students complete their program of study at any time, thus providing a continuous flow of graduates available for placement in the job market.

Placement services are available to students through the campus placement office which maintains a listing of current job openings, arranges employer interviews, and assists students in preparing for their job search. Approximately 85 to 90 percent of the students are placed in full-time jobs each year.

A cooperative education/internship program is provided which is a partnership between a student, the college, and an employer. This program integrates the student's classroom work with practical work experience and provides an opportunity for business, college, and student to work together to develop a more productive employee. Through this program, graduates of Central Community College are able to enter the job market with more carefully defined and realistic expectations of the careers they choose.

Marketing and Distributive Education

The hotel training program in New Orleans, Louisiana is an example of an emerging trend of holding classes at business sites. In this program, students complete academic requirements in their home schools, and report to the Hilton Hotel for their hotel marketing class and on-site cooperative training. Students receive instruction and occupational training in various departments of the hotel.

The program was initiated during the 1979-80 school year and has continued successfully since that time. Students who complete the program are qualified for employment in the hotel industry. The majority of completers go on for further education, with many continuing their education in the hotel, restaurant, and tourism field. Others are employed in the hotel field or in other occupations. Significantly, none was unemployed.

Because of the success of this program, the New Orleans Public Schools installed a similar program in the Hyatt Regency Hotel in 1981-82. Each of these programs enrolls approximately 32 students. The impact of these programs includes the following:

- o successful program delivery in an urban setting;
- o many disadvantaged students served (some had never been inside a modern hotel);
- o strong private sector involvement and support;
- o responsive to labor force needs in the expanding hotel industry;
- o training provided in real-life settings;
- o completers make successful transitions to the world of work or further schooling;

- o cost effective (school facilities and equipment not necessary); and
- o program design can be replicated.

Another innovative marketing and distributive education program is in North Dakota. This State has placed priority on improving the operation of its small businesses. The marketing and distributive education service, with the assistance of the Small Business Administration (Fargo District Office), has initiated a 3-year program called "Small Business Management." The program uses curriculum materials that were prepared in 1977 under contract for the (then) U.S. Office of Education. The materials have been adapted for use in rural communities and with Native Americans. It is a highly individualized, consultative program, with each client enrollee treated on a case-by-case basis. The program is currently offered in seven locations around the State and enrolls about 300 persons annually. This program has enabled many businesses to stay in operation and in some cases even expand.

Health Occupations Education

Two local school districts and a hospital in Ellis County, Oklahoma, have linked together in a cooperative program to provide practical nursing training to students in a sparsely populated area of the State. Three hospitals and six nursing homes in Ellis and surrounding counties have experienced a shortage of licensed practical nurses for years, but this shortage is being alleviated through the employment of graduates of this program. The program also serves students from the rural area of Lipscomb County, Texas, located 7 miles away.

Now in its third year of operation, the program is conducted 3 hours a day for the 9-month school session for 12th graders, followed by 6 months of full-time adult training. Students with special needs accounted for 40 percent of the January 1983 graduating class, and 100 percent of this class were placed in jobs.

This Ellis County program won a first place award at the 1982 National Health Occupations Students of America (HOSA) Conference in Chicago. HOSA sponsors a National Competitive Events Program as part of its conference, and students from across the country compete in events to test their knowledge and mastery of skills. The Ellis County program won in the secondary-level competition in the practical nursing category.

In December 1981, the Oswego County Boards of Cooperative Education Services (BOCES) in New York was approached by the U.S. Army Reserve (USAR) 376th Combat Support Hospital with a request to design a practical nurse education program for the upgrading of medical personnel in the reserves. The USAR offers two programs which cover specialized training similar to the basic phase of practical nurse education programs.

The Oswego County BOCES practical nurse faculty designed a program which gives qualified USAR personnel advanced standing in a New York State-approved practical nursing education program, and entitles graduates to receive a diploma and admission to the New York State licensure examination. Eligibility for the advanced phase of the practical nursing

program is determined by the successful completion of prerequisite courses and advanced placement exams.

The main objectives of the project are: 1) to provide an upgrading program for qualified reservists who are unable to leave their civilian locations and/or jobs; 2) to provide a cost-effective program; and 3) to provide reservists with the opportunity to upgrade within their specialty in the USAR.

The program started in September 1982. Twenty reservists, 17 men and 3 women, were selected and enrolled in the New York State-approved upgrading program. The program will operate over a 21-month period. Students are expected to attend class and clinical training as scheduled, one weekend a month. Clinical experience is received in local Oswego County Health Care institutions. In addition, students will attend two 2-week sessions of 48 hours per week. The cost for tuition and expenses will be less than it is with other types of Army upgrading options.

In addition to the obvious advantage of allowing soldiers to participate who cannot leave their civilian locations and/or jobs, the program is meeting the need for upgrading for this division of the armed services. It will also result in a more highly qualified soldier in the event of a national emergency. This is one more example of agencies working together to eliminate duplication and thereby offering more cost-effective programs.

Occupational Home Economics Education

The competency-based curriculum for the incarcerated and disadvantaged in Miami, Florida was designed for inmates who were in so-called "half-way houses." This program demonstrated the value of preparing persons for the transition from prison to work and home life.

Of the 29 inmates who participated in the initial program, only 3 returned to prison. The 26 who were successful in making the transition back to society learned skills such as: coping with children who had matured to teenagers while their parent was incarcerated; and occupational skills in food industry services, clothing apparel production and services, and other homemaking skills that were transferable to paid employment. Key programs which helped these inmates after their release from prison included personal relations, consumer education, nutrition and knowledge of food use, and parenting.

Another example of occupational home economics is the program in Canton High Schools, Connecticut. The program, known as Link, works with and serves persons aged 62-92 years.

Last year over 1,700 junior and senior secondary students participated in the Link program and developed an understanding of the elderly and the problems of aging. The program created so much interest between the students and the older population that the private sector in Canton began supporting the program. At the end of the school year, the program had accumulated enough money to keep the outside activities going.

This program exposed students to the field of gerontology, and helped students learn about careers in this field. Students were able to decide whether they had the competencies and aptitude for this occupational area, and approximately 150 senior students pursued careers in this field.

In Albuquerque, New Mexico, a special program in child growth and development is provided to high school girls. The drop-out rate for these students prior to offering the program was 40 percent. As the students worked with the preschool children, the drop-out rate was reduced substantially. In a 2-year period from 1980-81 to 1981-82, the drop-out rate was reduced to 8 percent.

Trade and Industrial Education

The telephone service repair program at Wisconsin Indianhead Technical Institute, Rice Lake, Wisconsin is the only educational offering of its kind in the Wisconsin Vocational Technical and Adult Education System and among few in the Nation. It is designed with a simple objective: to prepare students with the competencies required for immediate and successful job-entry employment in installation, maintenance, and repair positions in the telephone industry.

The telephone service/repair program is accessible to women, minorities, and handicapped. During the past 3 years, enrollments have included blacks, Native Americans, females, and physically, academically, and economically disabled students. Student ages range from 18 to 34 with enrollees entering the program with previous grade levels ranging from 10 through 16. A supportive entrance testing program exists to identify remedial needs before enrollment. A goal-oriented adult learning program in basic skill development and a learning disabilities program are available to strengthen student prerequisite skills prior to enrollment. Modern campus facilities are designed to provide entrance ease and accessibility to learning for physically handicapped persons.

In addition, a campus career assistance center provides career assessment and occupational information services. The district and campus emphasize special recruitment efforts to encourage women to enter traditionally male occupations. Women have been enrolled, graduated, and employed through this program which prepares students for entry into one of the most traditionally male-dominated occupations.

Practical application and hands-on learning experiences comprise 80 percent of the instructional program. Sustained strong cooperative telephone industry involvement and participation provide continuous updating of employment skill requirements. Training facilities simulate those of an actual small operating telephone company, with both an inside central office and outside aerial and underground line fields.

The initial curriculum was developed with total involvement and close cooperation with the telephone industry. The instructional content was tailored to provide competencies required to successfully perform specific duties and tasks required in telephone installation, service, and repair jobs. The training objectives are explicitly focused on specific skills

and competencies. Student achievement is measured and verified through evaluation of demonstrated hands-on student performance of job skills.

An advisory committee has been actively involved with program development and maintenance. The committee is handpicked in conjunction with the Wisconsin Telephone Association Educational Advisory Board with membership specifically designed to include representatives from each of the different size and type firms composing the more than 100 telephone companies in the State.

Campus/district and industry rapport is uniquely strong as demonstrated by the active advisory committee, and school involvement in the State Association Educational Advisory Committee. The rapport is evidenced by thousands of dollars in educational equipment and materials donated to the institution by the industry. Industry representatives serve as regular part-time call staff in the instructional program, and industry representatives regularly participate as resource speakers. The Wisconsin Telephone Association Foundation contributes $1,250 annually in the form of five $250 scholarships to students of the program. The industry also cooperates to provide sites for field trips, training demonstrations, and employment orientation and instruction for students. The instructional staff participates in industry sponsored workshops and seminars, as well as State conferences and conventions for professional growth activities.

The program provides the support base for unique training programs for telephone technicians already employed by the industry. One and two week, 40 and 80-hour courses cover specific telephone operations. Program content and course selection are developed though annual surveys of industry needs. Annual offerings are varied according to need survey results. Courses are conducted from mid-October to mid-May, during the off-season of industry outside plant construction.

In addition to a full capacity enrollment record, the program demonstrates a job placement rate which ranks among the highest of all programs in the State. The 1980 program evaluation statistics document placement of 81 percent of all graduates at the time of graduation for the 5-year period ending in 1979. Formal district 6-month graduate followup surveys indicate that during the most recent 5 years (through 1981 with 186 of 210 responding), 92 percent were employed with 83 percent employed in jobs directly related to their training. Until the economic slowdown in construction during the past 2 years, job openings far exceeded the number of graduates. Employers from throughout the Nation (e.g. Seattle, Houston, among others) have visited the campus to recruit graduates of the program.

Most recent district program cost statistics (1981) indicate a cost of $1,443 per full-time equivalent (FTE) student, making it the most cost effective industrial training program of the campus, substantially below the $2,735 FTE average for all campuses in the district.

The program is funded on the basis of 55 percent ($51,773) in local property tax, 27 percent ($25,416) through State and Federal funding, and 18 percent ($16,944) by student fees. Program costs have also been significantly subsidized by industry contributions of equipment, training supplies, and instructional materials.

Technical Education

In the fall of 1980, the staff of Tri-County Technical College, Pendleton, South Carolina were assigned to create a microelectronics resource center as a model for such programs in South Carolina, and to provide services to the staffs of the other 15 technical colleges in the State.

A national search was made of the industries in the microelectronics field to determine sources of curriculum consultative services, equipment needed to teach the specialties in the field, and to establish continuing sources of technical liaison to keep the Tri-County Technical College staff up to date in this rapidly developing and changing field.

Plans were made for establishing special laboratories at Tri-County Technical College during 1980-81, and developing, testing, and refining the specialized curriculum components in the field. This was an innovative and exemplary step toward providing the highest quality of technological expertise and teaching capability in microelectronics.

The electronic technology associate degree program at Kirkwood Community College, Cedar Rapids, Iowa is an example of a very successful 2-year electronic engineering technician preparatory program. It has had an average enrollment of 50 full-time (day) preparatory students, and 30 late-afternoon and evening students -- many of whom are employed. It graduates 20-30 students per year.

The progressive course content includes basic electronics and solid state applications, with emphasis on new developments such as digital computers and microprocessing components.

Collins Radio (a large, nationally known electronic products corporation) employs many of the graduates for research and development as well as highly computerized production and control operations. North American Aerospace Defense Command (NORAD) employs graduates as sales and service representatives.

Energy Education

New programs for training technicians in the use and conservation of energy have been initiated in four States. These programs were established to test the competency-based, modular, teaching/learning materials developed under a U.S. Department of Education research contract. Altogether, 16 special courses containing a total of 124 separate teaching/learning modules were tested and refined in each of the four schools. No such materials existed before the project began in 1978. By 1980-81, all of the schools had graduated students:

- Horry-Georgetown Technical College, near Myrtle Beach, South Carolina, 16 graduates
- Marshalltown Community College, Marshalltown, Iowa, 6 graduates
- Red Wing Energy Center, Red Wing, Minnesota, 11 graduates

o Tacoma Community College, Tacoma, Washington, 9 graduates

All of the graduates from these programs were prepared to measure and analyze the energy efficiency of an energy using system; to use electrical energy, mechanical energy, hydraulic or pneumatic energy, thermal or optical energy separately or in combination; and to recommend modifications to improve efficiency in the use of energy by a measured amount at a specific cost.

All graduates who sought employment as Energy Conservation and Use Technicians obtained jobs with starting salaries ranging from $14,000 to $22,000 per year.

In Illinois, at Wabash Valley College in Mount Carmel, student enrollment in the mining technician program is increasing, and graduates enter employment at earnings which range from $18,000 to $24,000 (average of $20,000). The rapid change to more sophisticated machinery and methods, and the need to improve worker safety and environmental impact, challenges coal mining technology students and graduates to keep up to date. Graduates who have good job performance records and keep up with the technology can, based on past experience, expect to earn over $30,000 per year within about 5 years. There are upwards of 25 schools in the States in or near coal-producing areas which offer coal mining technican programs.

The North Carolina vocational education system completed a 3-year program to develop materials, train State and local staff, and initiate solar energy and related programs in many local high schools. Based on projections for continuing postsecondary programs in solar energy technology and related program initiatives, a full-time consultant was employed, and technical high school programs were established.

Cooperative Vocational Education

The New Jersey Division of Vocational Education has joined forces with the Army and National Guard to provide some 100 high school seniors with cooperative education programs. Students learn under the supervision of licensed journeymen at National Guard facilities in such occupations as aircraft mechanics, medical technology, data processing, electronics, and welding.

The Ohio Department of Vocational Education recently collaborated to provide training to more than 7,000 Rockwell International workers to assist in building long-range combat aircraft (the B-1 bomber). Rockwell advised vocational educators on curriculum development, equipment needs, specifics of the industrial environment, and new technologies. Vocational education facilities were generally used for entry-level training, while mid-level training was offered at Rockwell facilities by community college instructors.

In Louisiana, cooperative education programs contribute significantly to the State's economy. The 8,609 students participating in co-op programs earned more than $19 million in school year 1980-81. Much of these

earnings was returned to the economy of local communities by purchases of goods and services and taxes paid on the income.

The 4,906 marketing and distributive education students in Louisiana received some 3 million hours of work-site training in 19 marketing occupations. Their earnings totaled over $10 million. The 378 students enrolled in multi-cooperative education programs gained 262,945 hours of work-site training in a variety of occupational areas, with earnings of $857,800. Followup surveys indicate that 80-85 percent of the graduates of these multi-occupational programs continued part time or full time in the occupation for which they were trained. Fifty percent of the enrollees reported pursuing postsecondary programs related to their occupational interest and training while in high school.

The 1,995 business education students in a cooperative education program in Louisiana received 1,396,685 hours of work-site training in six business occupations. Their earnings totaled over $4.5 million. There were 787 students in agriculture cooperative education programs and they earned over $4.5 million. The 583 trade and industrial students in cooperative education received 567,643 hours of work-site training and earned $3,281,070.

Apprenticeship

The machine tool apprenticeship program at the Southern Maine Vocational Technical Institute, South Portland, Maine, began in September 1980. The program was developed in response to skill needs in the machine tool technology occupation.

The apprenticeship machinist program consists of a 6-month (900 hours) component conducted at the postsecondary vocational technical institute, and 3 1/2 years of on-the-job registered apprenticeship training at participating employers. Concurrent with the in-plant training are 45 hours of additional related instruction in trade theory, applied mechanics, metallurgy, heat treating, communications, industrial organization, tool design, and other courses. The specific courses taken by each trainee are determined to meet the needs of the apprentice and the sponsoring employer. The related courses are offered one evening a week in several locations to allow apprentices from other programs to participate.

The program is administered by a committee which includes institutional staff and each participating employer. In 1981-82, the program was 100 percent federally funded with $50,000.

Students participating in this program are selected and sponsored by employers. Placement is automatic because each student is guaranteed employment upon completion of the institutional component.

Consumer and Homemaking Education

Every State has initiated specialized consumer and homemaking programs for the school-age parent who needs a comprehensive program of education, information on social services, and child care to remain in school during and after pregnancy. In the pilot year of Ohio's specialized programs, the

drop-out rate of this target group was only 8 percent compared to 41 percent of the control group.

Specialized programs have also been designed to help children and families in economically depressed areas. Annual reports of Ohio's Family Life Education programs located in 10 cities and six Appalachian counties show continued success with these disadvantaged welfare families at a cost of $52.26 per participant. Through followup studies conducted as an integral part of the program, State supervisors of consumer and homemaking education found that by improving the quality of home environments in economically depressed areas, social ills such as dropping out of school, drug use, juvenile delinquency, child abuse, and suicides were greatly reduced. During 1980-81, many persons benefited from these programs:

- o 13,812 participants were referred to a variety of community agencies for help;
- o 162 persons retained or regained custody of their children (due to their participation in the parent/infant interaction program);
- o 1,512 persons became involved in community activities;
- o 598 persons earned money through skills developed in the program;
- o 172 persons left welfare rolls for immediate employment and others progressed toward economic independence by participating in Adult Basic Education (265), enrolling in GED classes (166), enrolling in job training classes (181), and by continuing their education (138); and
- o 52 persons were able to purchase a home.

Illinois has conducted innovative adult consumer and homemaking programs for low-income adults. These programs were funded in six Illinois counties in the Chicago and East St. Louis areas. Program coordinator/teachers taught consumer management skills. About 3,000 low-income families were served, and 78 percent of the families served represented minority groups with incomes less than $5,900.

Another program serving low-income adults is in El Paso, Texas in public housing developments. Many residents were reluctant to come to schools for adult classes; therefore, a contract was set up between the housing projects and the schools to provide instruction in homemaking skills, managing income, and caring for children.

Wisconsin conducted a "Responsiveness Study: Federal Legislation and Consumer and Homemaking Education in Wisconsin VTAE System." This study showed that in 1978-80, one of the emphases in consumer and homemaking education was consumer education. The study reported that programming, curriculum, and learning activities reflected the needs of the students. Consumer and homemaking education helped students and family members by providing resources and/or referral to other programs and school services. Former students progressed through projects or activities to become informed consumers and resource managers. Consumer credit classes were

held at the postsecondary level in 10 districts. A consumer/family manager associate degree program was conducted in six districts.

Industrial Arts Education

One of the main objectives of industrial arts is to orient junior and senior high school students to various careers. One unique city-wide program that does just that is the New York City Industrial Arts Enterprise-Experience Curriculum. In this program, the world of work, including entrepreneurship, is simulated for students by establishing "mini-companies." On a day-to-day basis, students are involved in running a company through planning, manufacturing, and marketing a viable and useful product.

The Enterprise Program provides students with the opportunity to design a product, and organize and participate in the manufacture and marketing of the product. Students create and develop a corporate structure, elect officers and a Board of Directors, set up and operate an assembly line, and sell the finished products. The company sells shares, holds board meetings, conducts an annual meeting of all shareholders, and in general, operates according to its articles of incorporation and by-laws. The company and the program are self-sustaining as the profits are used to replace supplies and materials.

Some of the products which were mass produced include: ceramic mantel clocks, ceramic Christmas trees, copper enameled jewelry, lamps, music boxes, silk-screen products, coat racks, and engraved name plates.

By performing the dozens of activities necessary to actually run a company, students become aware of a broad variety of careers. Students are also motivated to gain more knowledge about the related academic instruction which they need to make their company a success.

An industrial arts program in the Greece Central School, North Greece, New York prepares students to live in a technological world. This industrial arts program provides all students in grades 7 to 12 an opportunity to enroll in a variety of courses devoted to the study of tools, materials, processes, and products of American industry. About 2,700 senior high students participate in this program each year.

The program is divided into three levels. Level I is an exploratory phase which emphasizes manipulative experiences in the four career clusters of construction, communications, manufacturing, and transportation. Level II is the pre-specialization phase in which students continue to expand their experiences in one or two specific career clusters. Level III can be called a specialization phase because students concentrate in one of the career clusters, participate in a modified version of cooperative education or become involved in some other alternative training option. Each level of instruction is designed to reflect a significant part of the labor force delivery system for this area of the State of New York.

Some of the activities include: working extensively with microprocessors; constructing an electronic organ as a group project; mass producing products such as tool boxes, drill presses, and table saws; designing and

building rocket cars; constructing a "mud buggy" as a class project; repairing marine engines; and designing and constructing real houses.

One of the criteria for this industrial arts program is that the content must be relevant and representative of our technological society. A 14-member advisory council advises the staff and administration in keeping abreast of technological changes, as well as assessing the scope and effectiveness of the program.

Guidance, Counseling and Placement

The Florida Division of Vocational Education, through the Center for Career Development Services, has developed and implemented a unique placement program called Florida CAPS, Cooperative Agency Placement System. This program was implemented to support and enhance the local placement efforts of public and private universities, community colleges, vocational technical centers, and local school districts. CAPS matches vocationally trained students seeking employment with employers who need persons with specific entry-level skills. From its beginning in June 1979 through December 1982, CAPS registered over 18,000 students and 16,000 employers, and made over 150,000 referrals.

Current CAPS activities include the following: 1) a "retired" skills bank for Florida established through use of mini-resumes of civilian and military retirees; 2) a four-phase CAPS placement program available for the 1982-83 school year; 3) a Florida employer profile available on microfiche; 4) an employability skills program available on microcomputers; 5) a toll-free jobs line; and 6) joint efforts with the Florida State Employment Service to explain CAPS and Florida State Employment Services.

During the 1983-84 school year, CAPS will be put on-line statewide with CHOICES (Computerized Heuristic Occupational Information Career Exploration System) to permit interactive computerized access to all CAPS files. Any student registered with a vocational education counseling office will then have access to the CAPS file, which is coordinated with the Florida State Employment Service. Other plans for 1983-84 are to use CAPS as a means to locate and attract high technology teachers to Florida.

Through combined efforts of CAPS and the Florida State Employment Service, formal placement followup activities are underway. Initial results are incomplete, but preliminary analysis indicates that 92 percent of CAPS applicants are working in Florida.

The Illinois State Board of Education, through the Department of Adult, Vocational, and Technical Education, is supporting 18 career guidance centers, inservice activities for counselors, and the development of resource materials. The centers assist public and private educational agencies in improving guidance for students. In addition, the centers assist agencies working with out-of-school individuals. Each center adapts its services to meet the needs within its geographical area. The centers provide regular newsletters, workshops, technical assistance, materials, and access to community resources. Nearly 650 workshops in one reported 9-month period involved 15,000 persons including educators, personnel from community-based agencies, and representatives of business and industry.

In Ohio the goal of the Division of Vocational Education is to have schools build into their curricula the knowledge and exploration of careers, to prepare all students for wise future choices and alternatives. Leadership and administration are provided for developing, implementing, and funding programs for career development in grades K-10. There are three levels of experience: Career Motivation for grades K-6, Career Orientation for grades 7-8, and Career Exploration for grades 9-10. According to a State evaluation of this special program called Education for Choice, students have become more capable of realistically evaluating their personal interests, abilities, and values, and are more aware of career options available to them.

Programs for the Handicapped

The La Puente Valley Adult School in California uses vocational education national priority program funds for the handicapped, disadvantaged, and limited English proficient to meet the educational needs of high school and adult students in several Los Angeles communities. The open access program makes it possible for the school to serve a large number of students with special needs, including limited English proficient students from more than 50 countries, more than 150 persons who are deaf or hard of hearing, and more than 200 mentally retarded students.

The school has also provided a refugee program for more than 4,000 limited English proficient persons. Over 2,200 of these persons have been placed in competitive jobs. Many of these persons had been receiving welfare and are now becoming self-sufficient.

Another special education program at La Puente Valley Adult School serves 16-21-year-olds from other school districts. The students take two academic classes at the vocational center along with their vocational program. The students are improving in their academic work because they feel that their vocational classes are a reward for good work. The students receive interpreter and other supportive services that have helped them remain in mainstream programs.

The school has three full-time counselors to work with rehabilitation students. Other support services provided at the school include: sign interpreters, Spanish and Vietnamese translators, and a vocational evaluation program. The involvement of the State Department of Rehabilitation and the Employment Development Department expands the services available to the special needs students.

In Wisconsin the Designation Vocational Instruction (DVI) program designates and trains special education teachers to facilitate the provision of supportive services to handicapped vocational students. The first year the program was implemented, 21 school districts participated and 457 students were served. Only 17 (3.7 percent) of these students dropped out of school while another 11 (2.4 percent) left the vocational education program.

Presently, there are 46 school districts which have implemented the DVI concept, and 25-30 additional school districts initiate the DVI program each year.

The enrollment of handicapped students in vocational education increased after the inception of the DVI program, and through DVI, handicapped students received a more comprehensive vocational education program. Evaluations indicated that the program was well received by administrators, vocational teachers, and special education teachers.

Programs for the Disadvantaged

Private sector involvement and services to disadvantaged and limited English proficient students are evident in the Tri Cities Regional Occupational Program (ROP) in East Los Angeles, California. This comprehensive business and industrial training program serves a large number of Hispanic youths. Thirty-nine courses offer job training skills, and over 300 businesses cooperate to train students on the most up-to-date materials and equipment. In the fall of 1981, 449 youths and 442 adults completed the ROP program at the East Los Angeles, California school. In the past 2 years, approximately 650 students who completed courses have become employed directly with one of the cooperating businesses.

At the Moore-Norman Vocational Technical Center in Oklahoma, disadvantaged students receive support services via microcomputers. According to program coordinators, students who have frequently met with failure throughout their school career successfully achieve when using the computer to learn. In this program, the computer is used to improve reading in vocational content, to teach blueprint reading for carpentry, welding and machine shop, and to teach concepts such as Ohms law.

This program demonstrates that individualized, self-paced, immediate feedback instruction is an effective way of learning for disadvantaged vocational students.

Each year approximately 1,000 persons with limited English proficiency are enrolled in vocational education at the St. Paul, Minnesota Technical Vocational Institute. These students are served in regular vocational programs with interpreters, or in separate occupational programs with bilingual teachers, depending on their degree of proficiency. About 85 percent of the students complete their program, and approximately 90 percent of the completers become employed. Of those students available for placement, 61 percent obtained jobs in related occupations.

Postsecondary and Adult Programs

On April 1, 1974, the Truck Driving Training Program of the Knoxville State Area Vocational-Technical School became the first of its kind conducted by an accredited institution in Tennessee. The Knoxville Motor Transport Association initiated the program because of a recognized need for qualified drivers in the East Tennessee area. In 1982, the program received the Secretary's Award for an outstanding vocational education program.

The school began its operations with 15 students and borrowed equipment from truck dealers in Knoxville. Since then, it has acquired four used trailers, as well as a 60-foot mobile home used as a classroom. Without the support of local companies, the program would not have been possible.

Graduates of the program are prepared to work with industry, private, or common carriers performing a door-to-door operation or as over-the-road drivers. These drivers are classified as professional drivers and are capable of meeting all requirements set forth by the Federal Motor Carrier Safety Regulations.

Upon completion of the program, the men and women participating are able to enter into the trucking industries as truck drivers, with an average starting salary between $20-25,000. Since the program began, 350 students have completed the course and 90 percent of the graduates are presently employed in the trucking industry.

The program has been beneficial to both students and local trucking firms. In addition to increasing their income, some of the students have become owner-operators. Local trucking firms place such a high value on this program that they have often 1) enrolled some of their presently employed drivers in the program for further training, 2) donated or loaned equipment to the school in support of the program, and 3) hired graduates from the program as openings occur even when their own policy requires 5 years of experience for "new hires."

The North Orange County (California) Regional Occupational Program's (NOCROP) banking occupations curriculum offers training to prepare both secondary and adult students for any of nine entry-level positions in commercial banks.

During the program, which can be completed in 18 weeks, students attend theory classes for approximately 100 hours. This instruction includes lectures, role playing, bank tours, guest speakers, interscholastic competitions, job fairs, and beginning skills training. Upon successful completion of the classroom phase, students train in commercial banks for an additional 80 hours, with the full cooperation and support of bank personnel. More than 80 bank branches participate in the program.

This program is evaluated by NOCROP's in-house review process, by the Banking Advisory Committee, by NOCROP's Board of Trustees, and by the California State Department of Education. Because of its high job placement rate for both secondary and adult students, this program has become one of the most popular and successful offered by NOCROP.

In July 1972, an exemplary marketing and distributive education class was established at Luna Vocational-Technical Institute in Las Vegas, New Mexico. The program has since grown into one of the largest marketing and distributive education programs in the Nation, and is recognized as one of the most innovative and effective.

The trimester program is open-entry, open-exit, and now requires 1,100 hours to complete. It serves only adult students and local retail-management employees. The program operates in 5,000 square feet of

classroom space including one of the most innovative and best equipped labs in the Nation. The lab closely resembles a modern retail store with a special ad-layout and sign-making room, separate cash register training room, private library, and modern displays.

In 1971, the Weber State College Skills Center in Ogden, Utah was established as an independent community vocational education institution to provide short-term training and entry-level job placement for disadvantaged residents of Northern Utah. It had an initial enrollment of 93 students.

The Center now operates open-entry, open-exit, self-pacing occupational training and job placement programs for approximately 500 adult and secondary students each month. About 33 percent of these students are high school graduates, with the majority being between 20 and 30 years of age; over half are women. In addition to students working for their high school diplomas, other groups being served include veterans, the handicapped, the economically disadvantaged, and unemployed adults. Training is offered in 21 different occupations.

Instruction in the classroom, in the shop, and on the job is designed to make the student job-ready. Job-related basic education and required high school classes are also taught and coordinated at the Center by the Weber School District.

Displaced Homemaker Programs

The objective of the Displaced Homemaker Pilot Project in Washington State has been to establish multi-purpose service centers and programs to provide necessary training opportunities, counseling, and services to displaced homemakers so they can become economically independent. Over 950 women received intensive services from two comprehensive centers and four multi-service centers located throughout the State. Over 70 percent of the participants were placed in employment or training as a result of the specialized programs. An additional 8,000 received short-term services. Program participants reported nine major barriers to employment. The most important at both the beginning and end of the intensive pre-employment session was "lack of vocational training." The cost for the program has averaged approximately $70 per person, not including skill training or placement cost. This project demonstrates cooperation and coordination among State and private agencies.

In Arizona, at Maricopa County Community College, a project is underway to provide statewide inservice training to local educational agencies with emphasis on providing community job skill resources to displaced homemakers and women re-entering the labor force. The project includes a model program for recruiting women seeking employment who lack job skills, employment information, and knowledge of community resources. The program includes classes which provide career counseling, job skills evaluation, aid in choosing appropriate educational or vocational training, and training in the actual job search.

Bilingual Programs

Community Learning Centers at Metropolitan State College, Denver, Colorado, received $288,119 in 1982 to conduct a bilingual vocational English training program for 180 adults. The program is training these limited English-speaking adults in specific occupations in hotels and restaurants, health services, and banking and clerical fields.

The students are permanent legal aliens, mostly Laotian, Vietnamese, and Hispanic. Most students are in their late 20's and have some knowledge of English. Students are taught the basics needed for any entry-level job. Students also participate in role-playing workshops and job-simulated interviews. It takes a maximum of 18 weeks for a student to complete training, and at the end they are placed in jobs.

After students are placed in on-the-job training, they receive followup services from their teacher and interpreter. Students are visited on the job and given more job-specific instruction and demonstration.

Since the program began in 1980, about 250 limited English-speaking adults have been placed in jobs in the Denver area. This program has enabled immigrants to work in this country, and has relieved the State government, in most cases, from the financial costs of welfare, refugee assistance, or other financial support for these persons.

Programs for the Incarcerated

The Virginia Correctional System provides training services and programs for incarcerated offenders through its Rehabilitative School Authority (RSA). For youth ages 11-18, the RSA provides 33 prevocational courses in 23 different occupational programs. Over 1,200 youth are served annually in seven State juvenile correctional institutions. Programs include career awareness, business education, health occupations education, home economics education, and trade and industrial education in service occupations (barbering, commercial and fast foods, sewing, etc.), construction occupations (carpentry, electricity, painting, masonry, welding, etc.), and mechanics and repairs occupations (auto body repair, auto mechanics, small engine repair, etc.).

For adults over 18, the RSA provides 59 vocational courses in 32 different occupational programs. Over 1,200 students are served annually in 16 State adult correctional institutions. Adult occupational programs include business education and trade and industrial education in service occupations, construction occupations, transportation occupations, and mechanics and repairs occupations.

Apprenticeship training is available in barbering/styling, electricity, cooking, baking, butchering, maintenance mechanics, plumbing, printing press operations, upholstery, and auto body repair. In addition, the Virginia Department of Corrections operates 17 different prison industries at 23 correctional institutions.

Employment services are included as part of the occupational training program for incarcerated offenders. RSA provides career awareness for

youth, and job acquisition skills for adults. The Corrections Department provides both pre-release and post-release services such as employment guidance and job information, and job placement assistance by probation and parole officers.

Sex Equity Programs

In 1981-82, Mississippi funded a pilot program in a rural high school entitled, "Promoting Gender Equity in Entrepreneurship." The program integrated entrepreneurship into a unique curriculum. The students set up a Personal Typewriting Service which gave them an opportunity to enter the business world as owners. The students did typing for doctoral candidates and handled all the typing services for a furniture manufacturer, plus some other businesses. Students who typed received one-half of the typing fee, and the other half went to support the local chapter of the Future Business Leaders of America student organization.

In addition, 40 women from the local community attended a seminar held by the students with the Small Business Administration. As a result of the information learned from the seminar, one woman bought out a drapery shop and is running the business successfully.

The Small Business Administration has continued its relationship with the school by providing updated library materials on all aspects of running a small business. The vocational technical school has, in fact, become a center for information for local business people who need help to keep their businesses afloat.

During 1980-81, 85 students participated in this program. The students continued their Personal Typewriting Service over the summer, and the program is continuing in 1983.

Project VOTE (Vocational Opportunity Through Equity) in Utah uses 15-minute film strips to help students select careers based on their own interests and aptitudes. Secondary and postsecondary vocational educators use trainers' guides with the film strips, and extensive inservice training has been conducted for teachers. Sex equity manuals help teachers involve parents and persons in the community in the project, and materials have been disseminated to 30 of the 40 secondary local educational agencies in the State. These materials have reached 20,000 students.

Twenty other States have also requested the materials. The Netherlands has adapted the materials for use in that country, and a similar pilot project is underway in India to establish a women's resource center.

Appalachia Programs

In September 1982, Tri-County Technical College in South Carolina initiated an Appalachia Regional Commission-sponsored project to expand two kinds of agreements with local industries: apprenticeship and technical scholarship programs.

The apprenticeship program agreements include traditional provisions as established by the Federal Committee on Apprenticeship, with related

instruction provided by Tri-County Tech. There are currently five apprenticeship agreements; the program goal is to develop and implement 10 more and to increase by 70 the number of apprenticeship students enrolled in related training.

The technical scholarship program agreements provide scholarships and employment for selected technical education students. For 12 quarters, participating students attend class part time and work for their sponsoring companies part time. After 3 years, the technical scholar becomes a full-time employee of the company, with 3 years' seniority. The program goal is to identify and select 30 students for participation in the program.

This ARC-sponsored project serves both students and area industries by providing training that leads directly to employment in the local community.

Programs for Indian Tribes and Indian Organizations

The Papago Tribe's Skill Center in Sells, Arizona provides training in four major occupations: masonry, electrical, plumbing, and carpentry. Classroom training in the four trades and on-the-job training are included in the program. During the past year, students have built four houses, and remodeled or added on to many homes inhabited by the elderly and handicapped. Also during the past year, the Skill Center took over a construction company which was on the verge of bankruptucy. During the first 6 months of operation, the construction company grossed $118,000 with a net profit of $10,000 for the tribe. The company plans to construct 21 more houses and a shopping mall.

This program has been so successful that it has been certified by the State Council of Apprentices of the Trade Unions and approved for conducting apprenticeship programs. Students receive credit for their vocational program toward journeyman status. All 40 students enrolled during the past 2 years are either still in on-the-job training with the construction company, or employed full time by them.

The Kickapoo Tribe of Oklahoma is operating a vocational program in (1) horticulture, (2) carpentry, and (3) voc-tech general, a program of choice based upon individual interests, aptitudes, and needs. These programs are housed and operated at the Gordon Cooper Vocational Training Center, Shawnee, Oklahoma, under a contract agreement between the training center and the tribal organization. The Kickapoo Tribe has a history of migrant farm employment ranging from border to border and season to season. Their economy fluctuates and the unemployment rate is quite high.

The vocational training program provides for more stable employment for those trainees who complete the training. The horticulture program enrolled 12 students; 9 completed the training, 3 were placed in employment, and 3 continued training. Efforts are being made to place the remaining six. Because of a new land lease agreement for truck gardening and the development of the Kickapoo hydroponic plant, these and future graduate placement possibilities are very positive. The carpentry program enrolled 12 students, 11 completed, 9 passed the U.S. Labor apprenticeship

examination, and 9 have been employed. The general vocational program enrolled 12 students, 11 completed the program, and 11 were placed in their respective skill areas. The program has a 95 percent completion rate and a 75 percent placement rate.

APPENDIXES

APPENDIX 1. FUNDING TABLES 1980-81

3000	Allocation of Federal funds by Section by State
3101	Expenditures by State by source
3111	Section 120 expenditures by source by State
3112	Section 130 expenditures by source by State
3113	Section 140 expenditures by source by State
3114	Section 150 expenditures by source by State
3115	Section 102d expenditures by source by State
3121	Section 110 outlays for handicapped by source by State
3122	Section 110 outlays for disadvantaged by source by State
3123	Section 110 outlays for limited English proficient by source by State
3124	Section 110 outlays for adult and postsecondary by source by State

TABLE 3000 -- ALLOCATION OF FEDERAL (VEA) FUNDS,BY LEGISLATIVE SECTION, AND BY STATE OR OUTLYING AREA: FISCAL YEAR 1981

STATE OR OUTLYING AREA	TOTAL	BASIC GRANTS (SEC 120)	PROGRAM IMPROVEMENT (SEC 130)	DISADVANTAGED (SEC 140)	CONSUMER AND HOMEMAKING (SEC 150)	STATE PLANNING (SEC 102)
ALABAMA	15,140,943	11,236,155	2,531,919	400,855	871,800	100,214
ALASKA	1,332,631	988,951	222,847	35,281	76,732	8,820
ARIZONA	8,589,941	6,374,629	1,436,439	227,418	494,600	56,855
ARKANSAS	8,430,025	6,255,956	1,409,697	223,184	485,392	55,796
CALIFORNIA	65,685,885	48,745,729	10,984,206	1,739,028	3,782,125	434,757
COLORADO	9,491,260	7,043,503	1,587,160	251,280	546,497	62,820
CONNECTICUT	8,954,643	6,645,277	1,497,425	237,074	515,599	59,268
DELAWARE	1,873,543	1,390,364	313,308	49,602	107,877	12,400
DISTRICT OF COLUMBIA	1,867,318	1,385,745	312,259	49,437	107,518	12,359
FLORIDA	27,846,061	20,664,674	4,656,511	737,222	1,603,348	184,306
GEORGIA	19,906,243	14,772,503	3,328,788	527,016	1,146,182	131,754
HAWAII	3,003,705	2,229,121	502,303	79,525	172,955	19,881
IDAHO	3,376,273	2,505,546	564,591	89,387	194,402	22,347
ILLINOIS	32,733,765	24,291,859	5,473,849	866,624	1,884,777	216,656
INDIANA	18,802,390	13,953,329	3,144,198	497,792	1,082,623	124,448
IOWA	9,980,096	7,406,269	1,668,905	264,222	574,644	66,056
KANSAS	8,042,746	5,968,554	1,344,935	212,931	463,093	53,233
KENTUCKY	13,634,764	10,118,413	2,280,051	360,979	785,076	90,245
LOUISIANA	16,232,221	12,045,996	2,714,496	429,747	934,635	107,437
MAINE	4,372,334	3,244,727	731,156	115,757	251,755	28,939
MARYLAND	13,417,251	9,956,996	2,243,677	355,221	772,552	88,805
MASSACHUSETTS	19,430,864	14,419,721	3,249,294	514,431	1,118,810	128,608
MICHIGAN	29,787,483	22,105,351	4,981,149	788,619	1,715,129	197,155
MINNESOTA	14,302,566	10,613,991	2,391,723	378,660	823,527	94,665
MISSISSIPPI	9,953,867	7,386,804	1,664,519	263,528	573,134	65,882
MISSOURI	17,507,029	12,992,036	2,927,585	463,497	1,008,037	115,874
MONTANA	3,125,671	2,319,573	522,685	82,752	179,973	20,688
NEBRASKA	5,678,609	4,214,118	949,596	150,341	326,969	37,585
NEVADA	1,900,144	1,410,105	317,748	50,306	109,408	12,577
NEW HAMPSHIRE	3,106,657	2,305,463	519,585	82,249	178,878	20,562
NEW JERSEY	20,767,357	15,411,539	3,472,787	549,818	1,195,763	137,450
NEW MEXICO	5,205,688	3,863,162	870,513	137,820	299,738	34,455
NEW YORK	54,198,419	40,220,864	9,063,240	1,434,899	3,120,691	358,725
NORTH CAROLINA	22,023,324	16,343,597	3,682,814	583,066	1,268,081	145,766
NORTH DAKOTA	2,629,032	1,951,015	439,636	69,603	151,377	17,401
OHIO	36,471,313	27,065,508	6,098,854	965,575	2,099,982	241,394
OKLAHOMA	10,294,786	7,639,802	1,721,528	272,555	592,763	68,138
OREGON	7,924,088	5,880,498	1,325,092	209,790	456,261	52,447
PENNSYLVANIA	38,593,416	28,640,328	6,453,720	1,021,758	2,222,170	255,440
RHODE ISLAND	3,244,022	2,407,802	542,476	85,885	186,788	21,471
SOUTH CAROLINA	12,232,612	9,077,870	2,045,578	323,858	704,342	80,964
SOUTH DAKOTA	2,846,349	2,112,318	475,982	75,358	163,892	18,839
TENNESSEE	16,774,484	12,448,411	2,805,085	444,104	965,458	111,026

-131-

TEXAS	45,917,173	34,875,318	7,678,423	1,215,658	2,683,865	303,913
UTAH	5,437,936	4,035,514	909,350	143,969	313,111	35,992
VERMONT	1,969,189	1,461,343	329,298	52,134	113,384	13,030
VIRGINIA	18,838,794	13,980,348	3,150,286	498,756	1,084,719	124,689
WASHINGTON	12,008,660	8,911,674	2,008,128	317,929	691,447	79,482
WEST VIRGINIA	6,745,407	5,005,794	1,127,989	178,584	388,394	44,646
WISCONSIN	17,170,999	12,742,667	2,871,392	454,601	988,689	113,650
WYOMING	1,377,774	1,022,452	230,396	36,476	79,331	9,119
TOTAL U.S.	$740,177,750	$549,288,878	$123,778,989	$19,596,153	$42,618,693	$4,899,037
PUERTO RICO	12,810,882	9,507,007	2,142,278	339,167	737,638	84,792
OUTLYING AREAS	$12,810,882	$9,507,007	$2,142,278	$339,167	$737,638	$84,792
U.S. AND OUTLYING AREAS	$752,988,632	$558,795,885	$125,917,267	$19,935,320	$43,356,331	$4,983,829

SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

TABLE 3101 -- VOCATIONAL EDUCATION (VEA) EXPENDITURES, BY SOURCE OF FUNDS, AND BY STATE OR OUTLYING AREA:
SCHOOL YEAR 1980-81
(SUM OF SECTIONS 102, 120, 130, 140, AND 150)
(INCLUDES CARRYOVER AND UNLIQUIDATED OBLIGATIONS)

STATE OR OUTLYING AREA	EXPENDITURES			OUTLAYS			UNLIQUIDATED OBLIGATIONS		
	TOTAL	NON-FEDERAL	FEDERAL	TOTAL	NON-FEDERAL	FEDERAL	TOTAL	NON-FEDERAL	FEDERAL
	AMOUNT, IN THOUSANDS								
ALABAMA	93,448	76,832	16,616	92,900	76,669	16,231	548	163	385
ALASKA	22,766	20,996	1,770	21,938	20,996	942	827	0	827
ARIZONA	55,038	46,069	8,969	55,038	46,069	8,969	0	0	0
ARKANSAS	46,060	39,021	7,039	46,060	39,021	7,039	0	0	0
CALIFORNIA	875,681	798,824	76,778	875,005	798,824	76,181	596	0	596
COLORADO	90,740	82,320	8,420	90,665	82,320	8,345	75	0	75
CONNECTICUT	76,481	66,721	9,720	75,708	66,721	8,988	733	0	733
DELAWARE	26,761	25,020	1,741	26,760	25,020	1,740	0	0	0
DISTRICT OF COLUMBIA	6,118	4,377	1,741	6,059	4,377	1,681	59	0	59
FLORIDA	466,348	425,794	40,553	448,413	425,794	22,619	17,934	0	17,934
GEORGIA	153,363	131,960	21,403	147,142	127,993	19,149	6,221	3,967	2,254
HAWAII	16,817	13,716	2,701	15,842	13,493	2,349	576	223	352
IDAHO	20,371	16,965	3,406	20,371	16,965	3,406	0	0	0
ILLINOIS	429,033	385,476	43,557	407,035	372,993	34,042	21,998	12,483	9,515
INDIANA	104,639	90,790	13,849	104,639	90,790	13,849	0	0	0
IOWA	85,186	75,800	9,386	85,186	75,800	9,386	0	0	0
KANSAS	53,261	44,954	8,308	52,593	44,954	7,640	668	0	668
KENTUCKY	94,733	78,570	16,163	94,072	78,492	15,580	661	79	583
LOUISIANA	125,267	109,856	15,411	125,267	109,856	15,411	0	0	0
MAINE	23,918	20,215	3,702	23,918	20,215	3,702	0	0	0
MARYLAND	128,060	113,317	14,743	125,714	113,317	12,397	2,346	0	2,346
MASSACHUSETTS	258,853	223,672	35,181	249,167	223,672	25,495	9,686	0	9,686
MICHIGAN	292,575	253,242	39,332	254,055	235,527	18,529	38,519	17,716	20,804
MINNESOTA	124,402	109,836	14,565	123,946	109,836	14,109	456	0	456
MISSISSIPPI	64,921	55,017	9,904	64,921	55,017	9,904	0	0	0
MISSOURI	107,280	92,017	15,263	107,280	92,017	15,263	0	0	0
MONTANA	20,104	16,299	3,804	18,965	16,299	2,666	1,139	0	1,139
NEBRASKA	39,284	33,723	5,561	39,284	33,723	5,561	0	0	0
NEVADA	15,737	13,464	2,273	15,304	13,464	1,840	433	0	433
NEW HAMPSHIRE	13,904	10,067	3,837	13,222	10,067	3,155	682	0	682
NEW JERSEY	169,824	150,990	18,833	169,824	150,990	18,833	0	0	0
NEW MEXICO	33,726	26,159	7,567	32,666	26,159	6,507	1,061	0	1,061
NEW YORK	594,508	552,169	42,340	594,508	552,169	42,340	0	0	0
NORTH CAROLINA	233,557	212,269	21,288	233,557	212,269	21,288	0	0	0
NORTH DAKOTA	18,732	15,995	2,737	18,732	15,995	2,737	0	0	0
OHIO	426,319	387,773	38,546	419,647	387,544	32,103	6,672	229	6,443
OKLAHOMA	92,898	80,666	12,232	89,840	79,087	10,753	3,057	1,579	1,479
OREGON	61,357	53,639	7,717	58,812	53,639	5,173	2,544	0	2,544
PENNSYLVANIA	387,967	341,928	46,043	376,076	338,980	37,176	11,891	3,024	8,867
RHODE ISLAND	29,629	26,590	3,039	29,591	26,590	3,000	38	0	38

SOUTH CAROLINA	104,742	91,190	13,553	100,408	91,190	9,218	4,343	0	4,343
SOUTH DAKOTA	12,804	10,541	2,262	12,804	10,541	2,262	0	0	0
TENNESSEE	129,569	114,625	14,944	129,569	114,625	14,944	0	0	0
TEXAS	396,196	321,426	74,771	371,260	321,408	49,852	24,936	18	24,918
UTAH	52,284	47,103	5,181	52,284	47,103	5,181	0	0	0
VERMONT	11,878	10,228	1,650	11,878	10,228	1,650	0	0	0
VIRGINIA	162,038	142,717	19,321	161,701	142,717	18,984	337	0	337
WASHINGTON	216,729	197,117	19,612	208,801	197,005	11,797	7,928	113	7,815
WEST VIRGINIA	63,738	56,053	7,685	63,686	56,053	7,633	52	0	52
WISCONSIN	332,799	305,522	27,276	264,392	246,803	17,589	68,407	58,640	9,767
WYOMING	8,794	6,637	2,158	4,358	3,565	793	4,436	3,072	1,364
TOTAL U.S.	$7,470,717	$6,626,263	$844,451	$7,230,855	$6,524,961	$705,893	$239,859	$101,306	$138,555
PUERTO RICO	48,345	34,170	14,174	47,327	33,944	13,383	1,018	226	792
OUTLYING AREAS	$48,345	$34,170	$14,174	$47,327	$33,944	$13,383	$1,018	$226	$792
U.S. AND OUTLYING AREAS	$7,519,062	$6,660,433	$858,625	$7,278,182	$6,558,905	$719,276	$240,877	$101,532	$139,347

NOTE: DETAILS MAY NOT ADD TO TOTALS BECAUSE OF ROUNDING.

SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

TABLE 3111 -- VOCATIONAL EDUCATION (VEA) SECTION 120 EXPENDITURES, BY SOURCE OF FUNDS, AND BY STATE OR OUTLYING AREA: SCHOOL YEAR 1980-81 (INCLUDES CARRYOVER AND UNLIQUIDATED OBLIGATIONS)

STATE OR OUTLYING AREA	EXPENDITURES			OUTLAYS			UNLIQUIDATED OBLIGATIONS		
	TOTAL	NON-FEDERAL	FEDERAL	TOTAL	NON-FEDERAL	FEDERAL	TOTAL	NON-FEDERAL	FEDERAL
	AMOUNT, IN THOUSANDS								
ALABAMA	78,368	66,170	12,198	77,966	66,817	11,949	401	153	248
ALASKA	21,951	20,644	1,306	21,265	20,644	620	686	0	686
ARIZONA	46,499	39,970	6,529	46,499	39,970	6,529	0	0	0
ARKANSAS	33,643	28,828	4,815	33,643	28,828	4,815	0	0	0
CALIFORNIA	772,377	715,377	57,000	772,290	715,377	56,913	87	0	87
COLORADO	79,448	73,382	6,058	79,365	73,382	5,983	75	0	75
CONNECTICUT	65,963	58,911	7,053	65,421	58,911	6,510	543	0	543
DELAWARE	24,421	23,125	1,296	24,421	23,125	1,296	0	0	0
DISTRICT OF COLUMBIA	5,284	3,966	1,318	5,235	3,966	1,269	49	0	49
FLORIDA	407,171	377,234	29,937	393,839	377,234	16,604	13,333	0	13,333
GEORGIA	129,897	114,294	15,603	125,297	110,714	14,583	4,600	3,580	1,020
HAWAII	14,117	12,072	2,045	13,567	11,849	1,718	550	223	327
IDAHO	16,706	14,135	2,572	16,706	14,135	2,572	0	0	0
ILLINOIS	401,604	371,945	29,659	384,491	359,462	25,029	17,113	12,483	4,630
INDIANA	90,684	80,936	9,748	90,684	80,936	9,748	0	0	0
IOWA	75,708	68,818	6,891	75,708	68,818	6,891	0	0	0
KANSAS	44,247	38,397	5,850	43,881	38,397	5,484	366	0	366
KENTUCKY	79,344	67,176	12,168	78,805	67,097	11,708	539	79	461
LOUISIANA	102,396	90,304	12,092	102,396	90,304	12,092	0	0	0
MAINE	21,229	18,516	2,713	21,229	18,516	2,713	0	0	0
MARYLAND	101,621	91,046	10,575	100,366	91,046	9,320	1,255	0	1,255
MASSACHUSETTS	223,404	198,378	25,026	216,376	198,378	17,999	7,028	0	7,028
MICHIGAN	242,688	212,978	29,706	210,938	197,996	12,942	31,746	14,983	16,764
MINNESOTA	101,074	90,581	10,493	101,058	90,581	10,477	16	0	16
MISSISSIPPI	49,532	42,100	7,432	49,532	42,100	7,432	0	0	0
MISSOURI	73,278	62,660	10,618	73,278	62,660	10,618	0	0	0
MONTANA	16,281	13,652	2,629	15,538	13,652	1,887	743	0	743
NEBRASKA	33,361	29,294	4,067	33,361	29,294	4,067	0	0	0
NEVADA	13,495	11,848	1,648	13,249	11,848	1,401	247	0	247
NEW HAMPSHIRE	10,995	8,127	2,868	10,507	8,127	2,381	488	0	488
NEW JERSEY	155,893	142,445	13,448	155,893	142,445	13,448	0	0	0
NEW MEXICO	28,502	23,120	5,381	27,766	23,120	4,645	736	0	736
NEW YORK	571,482	541,463	30,019	571,482	541,463	30,019	0	0	0
NORTH CAROLINA	203,931	187,955	15,976	203,931	187,955	15,976	0	0	0
NORTH DAKOTA	15,792	13,771	2,022	15,792	13,771	2,022	0	0	0
OHIO	345,191	317,016	28,175	339,183	316,787	22,315	6,[illegible]	229	5,860
OKLAHOMA	78,822	69,396	9,426	75,955	67,977	7,978	2,867	1,419	1,448
OREGON	56,883	51,692	5,191	55,017	51,652	3,365	1,826	0	1,826
PENNSYLVANIA	336,082	303,157	32,925	327,707	300,172	27,535	8,375	2,985	5,390
RHODE ISLAND	25,530	23,062	2,269	25,296	23,062	2,234	35	0	35
SOUTH CAROLINA	91,065	80,851	10,214	87,882	80,851	7,031	3,184	0	3,184

SOUTH DAKOTA	9,869	8,365	1,503	9,869	8,365	1,503	0	0	0
TENNESSEE	112,338	101,669	10,669	112,338	101,669	10,669	0	0	0
TEXAS	322,487	265,709	56,779	302,314	265,694	36,620	20,174	15	20,159
UTAH	38,365	34,540	3,825	38,365	34,540	3,825	0	0	0
VERMONT	9,735	8,567	1,169	9,735	8,567	1,169	0	0	0
VIRGINIA	140,942	126,702	14,240	140,685	126,702	13,984	257	0	257
WASHINGTON	179,025	164,900	14,124	173,309	164,811	8,498	5,715	89	5,626
WEST VIRGINIA	55,594	50,040	5,554	55,573	50,040	5,534	21	0	21
WISCONSIN	286,445	265,841	20,604	232,749	219,540	13,209	53,697	46,301	7,395
WYOMING	6,156	4,513	1,643	4,110	3,457	653	2,046	1,056	990
TOTAL U.S.	$6,446,663	$5,829,598	$617,069	$6,261,782	$5,746,004	$515,782	$184,887	$83,595	101293
PUERTO RICO	32,141	22,003	10,138	31,422	21,793	9,629	719	210	509
OUTLYING AREAS	$32,141	$22,003	$10,138	$31,422	$21,793	$9,629	$719	$210	$509
U.S. AND OUTLYING AREAS	$6,478,804	$5,851,601	$627,207	$6,293,204	$5,767,797	$525,411	$185,606	$83,805	101802

NOTE: DETAILS MAY NOT ADD TO TOTALS BECAUSE OF ROUNDING.

SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

TABLE 3112 -- VOCATIONAL EDUCATION (VEA) SECTION 130 EXPENDITURES, BY SOURCE OF FUNDS, AND BY STATE OR OUTLYING AREA: SCHOOL YEAR 1980-81
(INCLUDES CARRYOVER AND UNLIQUIDATED OBLIGATIONS)

STATE OR OUTLYING AREA	EXPENDITURES			OUTLAYS			UNLIQUIDATED OBLIGATIONS		
	TOTAL	NON-FEDERAL	FEDERAL	TOTAL	NON-FEDERAL	FEDERAL	TOTAL	NON-FEDERAL	FEDERAL
	AMOUNT, IN THOUSANDS								
ALABAMA	5,789	2,811	2,978	5,681	2,811	2,870	108	0	108
ALASKA	394	102	292	324	102	223	70	0	70
ARIZONA	2,574	950	1,624	2,574	950	1,624	0	0	0
ARKANSAS	6,114	4,631	1,483	6,114	4,631	1,483	0	0	0
CALIFORNIA	41,502	29,255	12,247	41,031	29,255	11,776	471	0	471
COLORADO	4,625	3,095	1,530	4,625	3,095	1,530	0	0	0
CONNECTICUT	2,737	902	1,835	2,581	902	1,679	156	0	156
DELAWARE	914	631	283	914	631	283	0	0	0
DISTRICT OF COLUMBIA	442	203	239	435	203	232	7	0	7
FLORIDA	23,567	16,977	6,590	20,879	16,977	3,902	2,689	0	2,689
GEORGIA	8,508	4,586	3,922	7,898	4,311	2,783	1,414	275	1,138
HAWAII	950	517	433	950	517	433	0	0	0
IDAHO	1,354	789	565	1,354	789	565	0	0	0
ILLINOIS	10,259	1,424	8,835	7,507	1,424	6,083	2,752	0	2,752
INDIANA	5,978	3,414	2,564	5,978	3,414	2,564	0	0	0
IOWA	2,334	642	1,692	2,334	642	1,692	0	0	0
KANSAS	3,395	1,728	1,668	3,153	1,728	1,426	242	0	242
KENTUCKY	4,783	1,982	2,721	4,623	1,982	2,641	80	0	80
LOUISIANA	12,496	10,647	1,849	12,496	10,647	1,849	0	0	0
MAINE	1,149	429	721	1,149	429	721	0	0	0
MARYLAND	7,190	4,361	2,829	6,284	4,361	1,923	906	0	906
MASSACHUSETTS	13,466	7,486	5,980	11,350	7,486	3,864	2,116	0	2,116
MICHIGAN	28,809	22,253	6,556	22,685	19,670	3,015	6,124	2,583	3,541
MINNESOTA	20,579	18,076	2,504	20,190	18,076	2,114	389	0	389
MISSISSIPPI	8,307	6,737	1,570	8,307	6,737	1,570	0	0	0
MISSOURI	22,620	19,554	3,066	22,620	19,554	3,066	0	0	0
MONTANA	1,066	240	826	814	240	574	251	0	251
NEBRASKA	2,306	1,337	969	2,306	1,337	969	0	0	0
NEVADA	472	35	437	312	35	278	160	0	160
NEW HAMPSHIRE	1,015	364	651	876	364	512	139	0	139
NEW JERSEY	7,169	3,636	3,533	7,169	3,636	3,533	0	0	0
NEW MEXICO	1,569	122	1,448	1,350	122	1,228	220	0	220
NEW YORK	9,569	890	8,679	9,569	890	8,679	0	0	0
NORTH CAROLINA	15,470	11,875	3,595	15,470	11,875	3,595	0	0	0
NORTH DAKOTA	929	460	469	929	460	469	0	0	0
OHIO	19,722	13,172	6,550	19,625	13,172	6,454	96	0	96
OKLAHOMA	6,777	4,990	1,787	6,587	4,831	1,756	190	159	31
OREGON	2,588	862	1,726	2,002	862	1,140	586	0	586
PENNSYLVANIA	29,675	21,245	8,430	27,366	21,206	6,160	2,309	39	2,270
RHODE ISLAND	1,364	914	450	1,364	914	450	0	0	0
SOUTH CAROLINA	8,937	6,816	2,120	8,149	6,816	1,333	788	0	788

SOUTH DAKOTA	614	127	487	614	127	487	0	0	0
TENNESSEE	6,538	3,628	2,901	6,538	3,628	2,901	0	0	0
TEXAS	28,817	17,933	10,884	25,354	17,930	7,424	3,463	3	3,460
UTAH	5,299	4,419	879	5,299	4,419	879	0	0	0
VERMONT	689	319	290	689	319	290	0	0	0
VIRGINIA	5,646	2,186	3,460	5,566	2,186	3,380	80	0	80
WASHINGTON	12,342	8,873	3,469	10,899	8,856	2,043	1,443	17	1,426
WEST VIRGINIA	3,231	1,718	1,513	3,199	1,718	1,481	32	0	32
WISCONSIN	29,465	25,406	4,059	21,629	19,067	2,561	7,836	6,338	1,498
WYOMING	861	488	374	203	93	111	658	395	263
TOTAL U.S.	$442,797	$296,237	$146,562	$407,022	$286,427	$120,598	$35,775	$9,809	$25,965
PUERTO RICO	7,015	4,533	2,482	6,841	4,527	2,314	174	6	167
OUTLYING AREAS	$7,015	$4,533	$2,482	$6,841	$4,527	$2,314	$174	$6	$167
U.S. AND OUTLYING AREAS	$449,812	$300,770	$149,044	$413,863	$290,954	$122,912	$35,949	$9,815	$26,132

NOTE: DETAILS MAY NOT ADD TO TOTALS BECAUSE OF ROUNDING.

SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

TABLE 3113 -- VOCATIONAL EDUCATION (VEA) SECTION 140 EXPENDITURES, BY SOURCE OF FUNDS, AND BY STATE OR OUTLYING AREA: 2
SCHOOL YEAR 1980-81
(INCLUDES CARRYOVER AND UNLIQUIDATED OBLIGATIONS)

STATE OR OUTLYING AREA	EXPENDITURES			OUTLAYS			UNLIQUIDATED OBLIGATIONS		
	TOTAL	NON-FEDERAL	FEDERAL	TOTAL	NON-FEDERAL	FEDERAL	TOTAL	NON-FEDERAL	FEDERAL
	AMOUNT, IN THOUSANDS								
ALABAMA	397	0	397	386	0	386	11	0	11
ALASKA	44	0	44	27	0	27	17	0	17
ARIZONA	350	112	238	350	112	238	0	0	0
ARKANSAS	249	0	249	249	0	249	0	0	0.
CALIFORNIA	3,192	709	2,484	3,192	709	2,484	0	0	0
COLORADO	551	318	233	551	318	233	0	0	0
CONNECTICUT	457	222	235	453	222	230	5	0	5
DELAWARE	129	86	43	128	86	43	0	0	0
DISTRICT OF COLUMBIA	46	0	46	46	0	46	0	0	0
FLORIDA	5,657	4,509	1,149	5,068	4,509	559	590	0	590
GEORGIA	639	0	639	636	0	636	3	0	3
HAWAII	77	0	77	68	0	68	9	0	9
IDAHO	55	6	49	55	6	49	0	0	0
ILLINOIS	1,653	0	1,653	787	0	787	867	0	867
INDIANA	285	0	285	285	0	285	0	0	0
IOWA	432	203	229	432	203	229	0	0	0
KANSAS	322	79	243	274	79	195	48	0	48
KENTUCKY	346	0	346	319	0	319	27	0	27
LOUISIANA	2,457	2,043	414	2,457	2,043	414	0	0	0
MAINE	119	0	119	119	0	119	0	0	0
MARYLAND	383	28	355	340	28	312	43	0	43
MASSACHUSETTS	1,378	0	1,378	1,378	0	1,378	0	0	0
MICHIGAN	1,467	530	937	1,160	411	748	307	119	188
MINNESOTA	379	0	379	379	0	379	0	0	0
MISSISSIPPI	513	263	250	513	263	250	0	0	0
MISSOURI	1,042	572	470	1,042	572	470	0	0	0
MONTANA	90	0	90	83	0	83	7	0	7
NEBRASKA	227	42	185	227	42	185	0	0	0
NEVADA	142	86	56	129	86	43	13	0	13
NEW HAMPSHIRE	107	0	107	89	0	89	18	0	18
NEW JERSEY	1,606	1,054	552	1,606	1,054	552	0	0	0
NEW MEXICO	235	0	235	152	0	152	83	0	83
NEW YORK	807	0	807	807	0	807	0	0	0
NORTH CAROLINA	341	8	333	341	8	333	0	0	0
NORTH DAKOTA	73	6	67	73	6	67	0	0	0
OHIO	1,157	185	972	1,135	185	950	22	0	22
OKLAHOMA	491	163	327	491	163	327	0	0	0
OREGON	208	0	208	143	0	143	65	0	65
PENNSYLVANIA	1,473	154	1,319	1,085	154	931	388	0	388
RHODE ISLAND	98	0	98	98	0	98	0	0	0
SOUTH CAROLINA	354	0	354	198	0	198	155	0	155

SOUTH DAKOTA	87	0	87	87	0	87	0	0	0
TENNESSEE	491	48	444	491	48	444	0	0	0
TEXAS	2,680	28	2,651	1,907	28	1,879	772	0	772
UTAH	144	0	144	144	0	144	0	0	0
VERMONT	79	0	79	79	0	79	0	0	0
VIRGINIA	880	409	472	888	409	472	0	0	0
WASHINGTON	725	21	704	352	21	331	373	0	373
WEST VIRGINIA	229	33	196	229	33	196	0	0	0
WISCONSIN	881	42	839	578	38	539	303	4	300
WYOMING	41	0	41	4	0	4	36	0	36
TOTAL U.S.	$36,217	$11,959	$24,260	$32,454	$11,836	$20,218	$4,162	$123	$4,040
PUERTO RICO	481	0	481	481	0	481	0	0	0
OUTLYING AREAS	$481	$0	$481	$481	$0	$481	$0	$0	$0
U.S. AND OUTLYING AREAS	$36,698	$11,959	$24,741	$32,935	$11,836	$20,699	$4,162	$123	$4,040

NOTE: DETAILS MAY NOT ADD TO TOTALS BECAUSE OF ROUNDING.

SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

TABLE 311A -- VOCATIONAL EDUCATION (VEA) SECTION 150 EXPENDITURES, BY SOURCE OF FUNDS, AND BY STATE OR OUTLYING AREA: 3
SCHOOL YEAR 1980-81
(INCLUDES CARRYOVER AND UNLIQUIDATED OBLIGATIONS)

STATE OR OUTLYING AREA	EXPENDITURES			OUTLAYS			UNLIQUIDATED OBLIGATIONS		
	TOTAL	NON-FEDERAL	FEDERAL	TOTAL	NON-FEDERAL	FEDERAL	TOTAL	NON-FEDERAL	FEDERAL
	AMOUNT, IN THOUSANDS								
ALABAMA	8,794	7,852	943	8,767	7,842	925	28	10	17
ALASKA	369	250	119	319	250	69	50	0	50
ARIZONA	5,591	5,025	566	5,591	5,025	566	0	0	0
ARKANSAS	5,998	5,562	436	5,998	5,562	436	0	0	0
CALIFORNIA	57,877	53,483	4,394	57,839	53,483	4,356	38	0	38
COLORADO	6,062	5,525	537	6,062	5,525	537	0	0	0
CONNECTICUT	7,277	6,686	591	7,248	6,686	562	29	0	29
DELAWARE	1,288	1,178	106	1,288	1,178	106	0	0	0
DISTRICT OF COLUMBIA	329	208	121	329	208	121	0	0	0
FLORIDA	29,547	26,908	2,647	28,372	26,908	1,472	1,175	0	1,175
GEORGIA	14,199	13,079	1,120	13,995	12,968	1,027	203	111	92
HAWAII	1,258	1,127	127	1,237	1,127	111	17	1	16
IDAHO	2,209	2,015	194	2,209	2,015	194	0	0	0
ILLINOIS	15,314	12,107	3,208	14,073	12,107	1,966	1,242	0	1,242
INDIANA	7,620	6,448	1,179	7,620	6,448	1,179	0	0	0
IOWA	6,712	6,138	575	6,712	6,138	575	0	0	0
KANSAS	5,251	4,750	501	5,241	4,750	491	10	0	10
KENTUCKY	10,090	9,239	851	10,075	9,239	836	15	0	15
LOUISIANA	7,822	6,862	960	7,822	6,862	960	0	0	0
MAINE	1,398	1,270	128	1,394	1,270	124	0	0	0
MARYLAND	18,696	17,881	815	18,611	17,881	730	84	0	84
MASSACHUSETTS	20,358	17,808	2,543	19,808	17,808	2,000	542	0	542
MICHIGAN	19,335	17,480	1,855	19,043	17,449	1,594	292	31	261
MINNESOTA	2,275	1,179	1,096	2,224	1,179	1,045	51	0	51
MISSISSIPPI	6,501	5,917	584	6,501	5,917	584	0	0	0
MISSOURI	10,201	9,184	1,017	10,201	9,184	1,017	0	0	0
MONTANA	2,646	2,408	238	2,509	2,408	101	137	0	137
NEBRASKA	3,378	3,051	327	3,378	3,051	327	0	0	0
NEVADA	1,615	1,495	120	1,601	1,495	106	14	0	14
NEW HAMPSHIRE	1,777	1,576	201	1,744	1,576	168	33	0	33
NEW JERSEY	5,071	3,854	1,216	5,071	3,854	1,216	0	0	0
NEW MEXICO	3,369	2,917	452	3,347	2,917	430	22	0	22
NEW YORK	12,372	9,816	2,556	12,372	9,816	2,556	0	0	0
NORTH CAROLINA	13,700	12,432	1,268	13,700	12,432	1,268	0	0	0
NORTH DAKOTA	1,927	1,758	169	1,927	1,758	169	0	0	0
OHIO	59,862	57,400	2,462	59,424	57,400	2,024	438	0	438
OKLAHOMA	6,649	6,026	623	6,649	6,026	623	0	0	0
OREGON	1,652	1,126	526	1,597	1,126	471	55	0	55
PENNSYLVANIA	20,656	17,368	3,288	19,856	17,368	2,487	801	0	801
RHODE ISLAND	2,819	2,615	205	2,816	2,615	201	3	0	3
SOUTH CAROLINA	4,281	3,523	759	4,082	3,523	559	199	0	199

SOUTH DAKOTA	2,222	2,049	172	2,222	2,049	172	0	0	0
TENNESSEE	10,117	9,280	838	10,117	9,280	838	0	0	0
TEXAS	42,042	37,756	4,287	41,581	37,756	3,826	461	0	461
UTAH	8,463	8,144	318	8,463	8,144	318	0	0	0
VERMONT	1,444	1,342	102	1,444	1,342	102	0	0	0
VIRGINIA	14,470	13,420	1,049	14,470	13,420	1,049	0	0	0
WASHINGTON	24,571	23,323	1,248	24,175	23,317	858	397	6	390
WEST VIRGINIA	4,640	4,263	377	4,640	4,263	377	0	0	0
WISCONSIN	15,832	14,234	1,598	9,296	8,237	1,059	6,536	5,996	540
WYOMING	1,727	1,636	92	41	15	26	1,686	1,621	66
TOTAL U.S.	$539,653	$487,957	$51,700	$525,095	$480,181	$44,914	$14,558	$7,776	$6,781
PUERTO RICO	8,625	7,634	991	8,500	7,624	876	126	10	116
OUTLYING AREAS	$8,625	$7,634	$991	$8,500	$7,624	$876	$126	$10	$116
U.S. AND OUTLYING AREAS	$548,278	$495,591	$52,691	$533,595	$487,805	$45,790	$14,684	$7,786	$6,897

NOTE: DETAILS MAY NOT ADD TO TOTALS BECAUSE OF ROUNDING.

SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

TABLE 3115 -- VOCATIONAL EDUCATION (VEA) SECTION 102 EXPENDITURES, BY SOURCE OF FUNDS, AND BY STATE OR OUTLYING AREA: SCHOOL YEAR 1980-81 (INCLUDES CARRYOVER AND UNLIQUIDATED OBLIGATIONS)

STATE OR OUTLYING AREA	EXPENDITURES			OUTLAYS			UNLIQUIDATED OBLIGATIONS		
	TOTAL	NON-FEDERAL	FEDERAL	TOTAL	NON-FEDERAL	FEDERAL	TOTAL	NON-FEDERAL	FEDERAL
	AMOUNT, IN THOUSANDS								
ALABAMA	100	0	100	100	0	100	0	0	0
ALASKA	9	0	9	3	0	3	5	0	5
ARIZONA	24	12	12	24	12	12	0	0	0
ARKANSAS	56	0	56	56	0	56	0	0	0
CALIFORNIA	653	0	653	653	0	653	0	0	0
COLORADO	63	0	63	63	0	63	0	0	0
CONNECTICUT	7	0	7	6	0	6	0	0	0
DELAWARE	13	0	13	13	0	13	0	0	0
DISTRICT OF COLUMBIA	17	0	17	13	0	13	4	0	4
FLORIDA	405	174	231	256	174	83	148	0	148
GEORGIA	121	0	121	120	0	120	0	0	0
HAWAII	19	0	19	19	0	19	0	0	0
IDAHO	47	20	26	47	20	26	0	0	0
ILLINOIS	201	0	201	177	0	177	24	0	24
INDIANA	113	0	113	113	0	113	0	0	0
IOWA	0	0	0	0	0	0	0	0	0
KANSAS	46	0	46	44	0	44	2	0	2
KENTUCKY	250	174	77	250	174	77	0	0	0
LOUISIANA	96	0	96	96	0	96	0	0	0
MAINE	26	0	26	26	0	26	0	0	0
MARYLAND	170	0	170	113	0	113	57	0	57
MASSACHUSETTS	254	0	254	254	0	254	0	0	0
MICHIGAN	279	0	279	229	0	229	50	0	50
MINNESOTA	95	0	95	95	0	95	0	0	0
MISSISSIPPI	68	0	68	68	0	68	0	0	0
MISSOURI	139	47	92	139	47	92	0	0	0
MONTANA	21	0	21	21	0	21	0	0	0
NEBRASKA	13	0	13	13	0	13	0	0	0
NEVADA	13	0	13	13	0	13	0	0	0
NEW HAMPSHIRE	10	0	10	6	0	6	4	0	4
NEW JERSEY	85	0	85	85	0	85	0	0	0
NEW MEXICO	51	0	51	51	0	51	0	0	0
NEW YORK	278	0	278	278	0	278	0	0	0
NORTH CAROLINA	116	0	116	116	0	116	0	0	0
NORTH DAKOTA	11	0	11	11	0	11	0	0	0
OHIO	386	0	386	360	0	360	26	0	26
OKLAHOMA	159	91	68	159	91	68	0	0	0
OREGON	65	0	65	53	0	53	12	0	12
PENNSYLVANIA	82	0	82	69	0	69	13	0	13
RHODE ISLAND	26	0	26	26	0	26	0	0	0
SOUTH CAROLINA	106	0	106	89	0	89	17	0	17

SOUTH DAKOTA	12	0	12	12	0	12	0	0	0
TENNESSEE	92	0	92	92	0	92	0	0	0
TEXAS	170	0	170	105	0	105	66	0	66
UTAH	14	0	14	14	0	14	0	0	0
VERMONT	11	0	11	11	0	11	0	0	0
VIRGINIA	100	0	100	100	0	100	0	0	0
WASHINGTON	65	0	65	65	0	65	0	0	0
WEST VIRGINIA	45	0	45	45	0	45	0	0	0
WISCONSIN	176	0	176	141	0	141	35	0	35
WYOMING	9	0	9	0	0	0	9	0	9
TOTAL U.S.	$5,387	$518	$4,869	$4,907	$518	$4,390	$477	$0	$477
PUERTO RICO	83	0	83	83	0	83	0	0	0
OUTLYING AREAS	$83	$0	$83	$83	$0	$83	$0	$0	$0
U.S. AND OUTLYING AREAS	$5,470	$518	$4,952	$4,990	$518	$4,473	$477	$0	$477

NOTE: DETAILS MAY NOT ADD TO TOTALS BECAUSE OF ROUNDING.

SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

TABLE 3121 -- OUTLAYS FOR PROGRAMS FOR HANDICAPPED ENROLLEES UNDER SECTION 110 (INCLUDING CARRYOVER) BY SOURCE OF FUNDS, PERCENT, RATIO, AND BY STATE UNITED STATES, OUTLYING AREAS SCHOOL YEAR 1980-81

STATE OR OUTLYING AREA	OUTLAYS			FEDERAL AS PERCENT OF TOTAL	RATIO OF NON-FEDERAL TO FEDERAL
	TOTAL	NON-FEDERAL	FEDERAL		
ALABAMA	3,216,163	1,733,459	1,482,704	46.1	1.17
ALASKA	555,509	523,446	32,063	5.8	16.33
ARIZONA	1,792,758	923,717	869,041	48.5	1.06
ARKANSAS	1,975,535	1,076,790	898,745	45.5	1.20
CALIFORNIA	20,715,850	13,241,386	7,474,464	36.1	1.77
COLORADO	2,887,138	2,365,942	521,196	18.1	4.54
CONNECTICUT	4,516,551	3,419,877	1,096,674	24.3	3.12
DELAWARE	2,986,955	2,816,938	170,017	5.7	16.57
DISTRICT OF COLUMBIA	362,290	198,373	163,917	45.2	1.21
FLORIDA	13,373,846	9,790,651	3,583,195	26.8	2.73
GEORGIA	4,418,596	2,660,085	1,758,511	39.8	1.51
HAWAII	615,843	380,098	235,745	38.3	1.61
IDAHO	707,261	378,894	328,367	46.4	1.15
ILLINOIS	22,181,616	18,132,730	4,048,886	18.3	4.48
INDIANA	1,477,937	723,375	754,562	51.1	0.96
IOWA	2,093,605	1,192,771	900,834	43.0	1.32
KANSAS	1,732,956	865,211	867,745	50.1	1.00
KENTUCKY	3,406,636	1,862,068	1,544,568	45.3	1.21
LOUISIANA	3,093,144	1,979,359	1,113,785	36.0	1.78
MAINE	930,108	562,146	367,962	39.6	1.53
MARYLAND	4,766,460	3,409,537	1,356,923	28.5	2.51
MASSACHUSETTS	10,379,875	7,909,942	2,469,933	23.8	3.20
MICHIGAN	3,476,371	1,224,999	2,251,372	64.8	0.54
MINNESOTA	5,309,850	4,009,279	1,300,571	24.5	3.08
MISSISSIPPI	2,017,285	1,153,309	863,976	42.8	1.33
MISSOURI	3,864,303	2,762,332	1,101,971	28.5	2.51
MONTANA	491,815	294,509	197,306	40.1	1.49
NEBRASKA	841,821	449,508	392,313	46.6	1.15
NEVADA	726,030	574,711	151,319	20.8	3.80
NEW HAMPSHIRE	535,318	318,267	217,051	40.5	1.47
NEW JERSEY	6,248,890	4,292,334	1,956,556	31.3	2.19
NEW MEXICO	1,781,073	1,104,901	676,172	38.0	1.63
NEW YORK	28,143,744	24,945,906	3,197,838	11.4	7.80
NORTH CAROLINA	3,799,152	1,900,785	1,898,367	50.0	1.00
NORTH DAKOTA	687,433	342,377	345,056	50.2	0.99
OHIO	7,093,896	4,450,833	2,643,063	37.3	1.68
OKLAHOMA	2,159,206	1,385,851	773,355	35.8	1.79
OREGON	3,131,529	2,407,498	724,031	23.1	3.33
PENNSYLVANIA	10,120,589	6,421,611	3,698,978	36.5	1.74
RHODE ISLAND	2,169,188	1,885,138	284,050	13.1	6.64
SOUTH CAROLINA	1,651,369	857,801	793,568	48.1	1.08
SOUTH DAKOTA	708,705	359,999	348,706	49.2	1.03

TENNESSEE	4,419,404	2,712,462	1,706,942	38.6	1.59
TEXAS	10,331,656	6,595,391	3,736,265	36.2	1.77
UTAH	651,039	276,794	374,245	57.5	0.74
VERMONT	454,894	308,188	146,706	32.3	2.10
VIRGINIA	4,338,067	2,184,252	2,153,815	49.6	1.01
WASHINGTON	3,121,104	1,943,714	1,177,390	37.7	1.65
WEST VIRGINIA	1,830,753	1,222,322	608,431	33.2	2.01
WISCONSIN	5,432,029	3,524,649	1,907,380	35.1	1.85
WYOMING	196,726	98,363	98,363	50.0	1.00
TOTAL U.S.	$223,915,871	$156,158,878	$67,760,993	30.3	2.30
PUERTO RICO	1,374,586	687,293	687,293	50.0	1.00
OUTLYING AREAS	$1,374,586	$687,293	$687,293	50.0	1.00
U.S. AND OUTLYING AREAS	$225,290,457	$156,842,171	$68,448,286	30.4	2.29

SOURCE U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

TABLE 3122 -- OUTLAYS FOR PROGRAMS FOR DISADVANTAGED ENROLLEES UNDER SECTION 110 (INCLUDING CARRYOVER) 2
BY SOURCE OF FUNDS, PERCENT, RATIO, AND BY STATE
UNITED STATES, OUTLYING AREAS SCHOOL YEAR 1980-81

STATE OR OUTLYING AREA	OUTLAYS			FEDERAL AS PERCENT OF TOTAL	RATIO OF NON-FEDERAL TO FEDERAL
	TOTAL	NON-FEDERAL	FEDERAL		
ALABAMA	6,539,483	3,268,577	3,270,906	50.0	1.00
ALASKA	610,534	426,857	183,677	30.1	2.32
ARIZONA	3,658,742	2,466,886	1,191,856	32.6	2.07
ARKANSAS	3,827,534	2,083,016	1,744,518	45.6	1.19
CALIFORNIA	29,635,019	14,110,780	15,524,239	52.4	0.91
COLORADO	3,899,960	2,681,835	1,218,125	31.2	2.20
CONNECTICUT	4,644,669	2,952,461	1,692,208	36.4	1.74
DELAWARE	4,293,608	3,875,629	417,979	9.7	9.27
DISTRICT OF COLUMBIA	689,931	385,867	304,064	44.1	1.27
FLORIDA	39,145,004	35,390,492	3,754,512	9.6	9.43
GEORGIA	6,834,968	3,357,293	3,477,675	50.9	0.97
HAWAII	1,469,107	1,028,726	440,381	30.0	2.34
IDAHO	1,299,818	678,366	621,452	47.8	1.09
ILLINOIS	34,171,307	27,127,434	7,043,873	20.6	3.85
INDIANA	5,587,695	3,366,927	2,220,768	39.7	1.52
IOWA	3,828,945	2,191,334	1,637,611	42.8	1.34
KANSAS	1,552,637	753,333	799,304	51.5	0.94
KENTUCKY	5,900,158	2,835,186	3,064,972	51.9	0.93
LOUISIANA	9,911,181	7,300,852	2,610,329	26.3	2.80
MAINE	1,467,709	820,071	647,638	44.1	1.27
MARYLAND	9,251,115	6,945,411	2,305,704	24.9	3.01
MASSACHUSETTS	7,055,527	2,655,986	4,399,541	62.4	0.60
MICHIGAN	9,034,989	4,768,579	4,266,410	47.2	1.12
MINNESOTA	7,657,816	5,275,592	2,382,224	31.1	2.21
MISSISSIPPI	3,326,752	1,653,848	1,672,904	50.3	0.99
MISSOURI	4,962,748	2,881,316	2,081,432	41.9	1.38
MONTANA	1,305,635	837,089	468,546	35.9	1.79
NEBRASKA	2,535,504	1,487,165	1,048,339	41.3	1.42
NEVADA	892,846	579,473	313,373	35.1	1.85
NEW HAMPSHIRE	1,143,404	583,366	560,038	49.0	1.04
NEW JERSEY	8,832,127	5,670,959	3,161,168	35.8	1.79
NEW MEXICO	1,428,530	751,772	676,758	47.4	1.11
NEW YORK	101,927,634	94,786,880	7,140,754	7.0	13.27
NORTH CAROLINA	7,242,000	3,620,037	3,621,963	50.0	1.00
NORTH DAKOTA	1,126,144	577,280	548,864	48.7	1.05
OHIO	62,421,432	54,827,676	7,593,756	12.2	7.22
OKLAHOMA	5,469,226	3,481,623	1,987,603	36.3	1.75
OREGON	2,842,850	1,365,198	1,477,652	52.0	0.92
PENNSYLVANIA	20,941,320	12,454,493	8,486,827	40.5	1.47
RHODE ISLAND	4,091,114	3,417,371	673,743	16.5	5.07
SOUTH CAROLINA	3,794,478	1,897,239	1,897,239	50.0	1.00
SOUTH DAKOTA	905,866	395,561	510,305	56.3	0.78

-147-

TENNESSEE	7,395,466	4,810,113	2,585,353	35.0	1.86
TEXAS	38,911,325	22,879,161	8,032,164	26.0	2.85
UTAH	2,674,459	1,697,714	976,745	36.5	1.74
VERMONT	562,921	291,290	271,631	48.3	1.07
VIRGINIA	6,413,615	3,212,120	3,201,495	49.9	1.00
WASHINGTON	5,745,966	3,464,898	2,281,872	39.7	1.52
WEST VIRGINIA	3,077,607	1,920,370	1,157,237	37.6	1.66
WISCONSIN	17,569,798	13,956,754	3,613,044	20.6	3.86
WYOMING	361,704	180,852	180,852	50.0	1.00
TOTAL U.S.	$511,869,927	$380,428,304	$131,441,623	25.7	2.89
PUERTO RICO	6,320,702	3,832,026	2,488,676	39.4	1.54
OUTLYING AREAS	$6,320,702	$3,832,026	$2,488,676	39.4	1.54
U.S. AND OUTLYING AREAS	$518,190,629	$384,260,330	$133,930,299	25.8	2.87

SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

TABLE 3123 -- OUTLAYS FOR PROGRAMS FOR ENROLLEES WITH LIMITED ENGLISH PROFICIENCY UNDER SECTION 110 (INCLUDING CARRYOVER) 3

UNITED STATES, OUTLYING AREAS SCHOOL YEAR 1980-81

STATE OR OUTLYING AREA	OUTLAYS TOTAL	OUTLAYS NON-FEDERAL	OUTLAYS FEDERAL	FEDERAL AS PERCENT OF TOTAL	RATIO OF NON-FEDERAL TO FEDERAL
ALABAMA	348	0	348	100.0	0.00
ALASKA	0	0	0	.	.
ARIZONA	512,015	186,576	325,439	63.6	0.57
ARKANSAS	53,094	31,033	22,061	41.6	1.41
CALIFORNIA	2,477,797	1,710,819	766,978	31.0	2.23
COLORADO	75,168	0	75,168	100.0	0.00
CONNECTICUT	113,009	0	113,009	100.0	0.00
DELAWARE	16,159	7,000	9,159	56.7	0.76
DISTRICT OF COLUMBIA	10,000	0	10,000	100.0	0.00
FLORIDA	1,295,156	784,720	510,436	39.4	1.54
GEORGIA	239,984	119,992	119,992	50.0	1.00
HAWAII	38,183	18,893	19,290	50.5	0.98
IDAHO	51,636	18,325	33,311	64.5	0.55
ILLINOIS	1,973,084	1,413,243	559,841	28.4	2.52
INDIANA	79,757	44,335	35,422	44.4	1.25
IOWA	59,837	40,101	19,736	33.0	2.03
KANSAS	130,604	63,048	67,556	51.7	0.93
KENTUCKY	27,442	0	27,442	100.0	0.00
LOUISIANA	69,196	39,598	29,598	42.8	1.34
MAINE	0	0	0	.	.
MARYLAND	93,350	0	93,350	100.0	0.00
MASSACHUSETTS	1,523,330	846,283	677,047	44.4	1.25
MICHIGAN	468,427	169,364	299,063	63.8	0.57
MINNESOTA	437,838	218,919	218,919	50.0	1.00
MISSISSIPPI	2,510	1,255	1,255	50.0	1.00
MISSOURI	52,551	26,977	25,574	48.7	1.05
MONTANA	5,706	4,700	1,006	17.6	4.67
NEBRASKA	9,876	547	9,329	94.5	0.06
NEVADA	68,601	66,380	2,221	3.2	29.89
NEW HAMPSHIRE	9,261	0	9,261	100.0	0.00
NEW JERSEY	1,041,796	849,312	192,484	18.5	4.41
NEW MEXICO	1,161,324	450,562	710,762	61.2	0.63
NEW YORK	11,110,029	10,230,154	879,875	7.9	11.63
NORTH CAROLINA	13,646	6,823	6,823	50.0	1.00
NORTH DAKOTA	6,524	3,392	3,132	48.0	1.08
OHIO	157,643	32,045	125,598	79.7	0.26
OKLAHOMA	22,704	7,749	14,955	65.9	0.52
OREGON	41,494	1,854	39,640	95.5	0.05
PENNSYLVANIA	533,216	302,826	230,390	43.2	1.31
RHODE ISLAND	805,984	746,025	59,959	7.4	12.44
SOUTH CAROLINA	0	0	0	.	.
SOUTH DAKOTA	0	0	0	.	.

TENNESSEE	19,070	9,535	9,535	50.0	1.00
TEXAS	77,914	0	77,914	100.0	0.00
UTAH	128,647	29,144	99,503	77.3	0.29
VERMONT	0	0	0	.	.
VIRGINIA	33,989	0	33,989	100.0	0.00
WASHINGTON	1,066,925	956,062	110,863	10.4	8.62
WEST VIRGINIA	260	130	130	50.0	1.00
WISCONSIN	356,371	276,357	80,014	22.5	3.45
WYOMING	22,159	11,279	10,880	49.1	1.04
TOTAL U.S.	$26,493,606	$19,725,357	$6,768,249	25.5	2.91
PUERTO RICO	281,461	0	281,461	100.0	0.00
OUTLYING AREAS	$281,461	$0	$281,461	100.0	0.00
U.S. AND OUTLYING AREAS	$26,775,067	$19,725,357	$7,049,710	26.3	2.80

SOURCE U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

TABLE 3124 -- OUTLAYS FOR ADULT AND POSTSECONDARY EDUCATION UNDER SECTION 110 (INCLUDING CARRYOVER) BY SOURCE OF FUNDS, PERCENT, RATIO, AND BY STATE
UNITED STATES, OUTLYING AREAS SCHOOL YEAR 1980-81

STATE OR OUTLYING AREA	OUTLAYS			FEDERAL AS PERCENT OF TOTAL	RATIO OF NON-FEDERAL TO FEDERAL
	TOTAL	NON-FEDERAL	FEDERAL		
ALABAMA	27,932,528	25,830,384	2,102,144	7.5	12.29
ALASKA	600,207	465,259	134,948	22.5	3.45
ARIZONA	17,970,616	16,720,907	1,249,709	7.0	13.38
ARKANSAS	14,723,212	13,110,726	1,612,486	11.0	8.13
CALIFORNIA	469,449,543	446,779,002	22,670,541	4.8	19.71
COLORADO	35,246,269	31,349,299	3,896,970	11.1	8.04
CONNECTICUT	6,249,565	4,954,032	1,295,533	20.7	3.82
DELAWARE	18,355,454	18,094,300	261,154	1.4	69.29
DISTRICT OF COLUMBIA	810,021	601,293	208,728	25.8	2.88
FLORIDA	142,734,367	138,650,167	4,084,200	2.9	33.95
GEORGIA	49,492,000	43,699,475	5,792,525	11.7	7.54
HAWAII	7,627,780	7,290,335	337,445	4.4	21.60
IDAHO	9,451,106	8,831,837	619,269	6.6	14.26
ILLINOIS	156,965,296	142,597,435	14,367,861	9.2	9.92
INDIANA	56,673,209	53,002,870	3,670,339	6.5	14.44
IOWA	56,628,618	53,159,488	3,469,130	6.1	15.32
KANSAS	25,351,399	23,650,219	1,701,180	6.7	13.90
KENTUCKY	20,221,426	16,526,047	3,695,379	18.3	4.47
LOUISIANA	55,038,305	52,822,962	2,215,343	4.0	23.84
MAINE	10,279,916	8,892,606	1,387,310	13.5	6.41
MARYLAND	32,589,565	30,790,374	1,799,191	5.5	17.11
MASSACHUSETTS	36,438,375	31,982,962	4,455,413	12.2	7.18
MICHIGAN	93,767,625	86,750,088	7,017,537	7.5	12.36
MINNESOTA	73,876,090	66,276,530	7,599,560	10.3	8.72
MISSISSIPPI	18,821,651	17,468,813	1,352,838	7.2	12.91
MISSOURI	21,181,599	16,857,061	4,324,538	20.4	3.90
MONTANA	6,365,934	5,252,606	1,113,328	17.5	4.72
NEBRASKA	22,114,377	21,254,719	859,658	3.9	24.72
NEVADA	3,897,074	3,627,896	269,178	6.9	13.48
NEW HAMPSHIRE	850,676	477,328	373,348	43.9	1.28
NEW JERSEY	81,652,791	78,528,118	3,124,673	3.8	25.13
NEW MEXICO	14,529,897	11,913,301	2,616,596	18.0	4.55
NEW YORK	259,723,440	252,173,208	7,550,232	2.9	33.40
NORTH CAROLINA	145,213,087	142,209,125	3,003,962	2.1	47.34
NORTH DAKOTA	6,474,584	5,581,692	892,812	13.8	6.25
OHIO	41,139,344	35,169,075	5,970,269	14.5	5.89
OKLAHOMA	14,311,911	12,118,411	2,193,500	15.3	5.52
OREGON	68,167,407	65,559,458	2,607,949	3.8	25.14
PENNSYLVANIA	64,806,581	59,176,633	5,629,948	8.7	10.51
RHODE ISLAND	3,305,633	2,971,537	334,096	10.1	8.89
SOUTH CAROLINA	28,316,162	26,994,759	1,321,403	4.7	20.43
SOUTH DAKOTA	4,065,036	3,425,375	639,661	15.7	[illegible]35

TENNESSEE	34,069,014	31,282,098	2,786,916	8.2	11.22
TEXAS	136,828,546	128,441,869	8,386,677	6.1	15.31
UTAH	26,057,842	22,837,605	3,220,237	12.4	7.09
VERMONT	501,597	277,853	223,744	44.6	1.24
VIRGINIA	23,165,358	20,566,507	2,598,851	11.2	7.91
WASHINGTON	112,042,577	105,652,837	6,389,740	5.7	16.53
WEST VIRGINIA	14,252,996	11,941,768	2,311,228	16.2	5.17
WISCONSIN	139,423,549	134,340,521	5,083,028	3.6	26.43
WYOMING	1,547,822	1,490,000	57,822	3.7	25.77
TOTAL U.S.	$2,711,298,897	$2,540,418,770	$170,880,127	6.3	14.87
PUERTO RICO	6,138,904	4,215,605	1,923,299	31.3	2.19
OUTLYING AREAS	$6,138,904	$4,215,605	$1,923,299	31.3	2.19
U.S. AND OUTLYING AREAS	$2,717,437,801	$2,544,634,375	$172,803,426	6.4	14.73

SOURCE U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

APPENDIX 2. ENROLLMENT TABLES 1980-81

1101	Enrollment by program by State
1102	Enrollment by program by institution
1104	Enrollment by institution by State
1105	Enrollment by program by race and sex
1109	Special needs enrollment by program
1601	Enrollment in cooperative education and apprentice programs, by program and institution
1701	Enrollment by legislative purpose by State

PRELIMINARY

TABLE 11A1: ENROLLMENT (VFA), BY INSTRUCTIONAL PROGRAM AREA AND BY STATE: 1980-81 MONDAY, APRIL 4, 1983 11:08:59

STATE	TOTAL	AGRI-CULTURE	DISTRI-BUTION	HEALTH	CONS. AND HMMKG	OCCUP. HOME ECON	IND. ARTS	OFFICE OCCUP.	TECH-NICAL	TRADE AND INDUS	OTHER NEC
ALABAMA	227,920	38,361	8,656	11,745	52,938	8,514	6,993	38,136	2,231	61,723	2,731
ALASKA	17,557	62	870	506	1,826	477	17	7,601	1,329	4,783	86
ARIZONA	299,505	5,890	38,222	13,748	34,315	12,255	31,231	68,109	11,884	44,440	3,411
ARKANSAS	137,832	21,167	4,089	7,268	42,540	2,250	3,481	22,691	22	25,417	9,447
CALIFORNIA	2,340,351	92,159	125,585	143,587	292,718	95,208	411,100	668,999	94,341	355,448	69,186
COLORADO	153,659	8,230	9,218	8,686	40,859	4,831	.	37,604	11,762	33,529	3,740
CONNECTICUT	221,833	1,709	4,570	3,813	92,268	2,007	42,684	44,382	546	22,548	7,714
DELAWARE	46,006	2,023	879	1,988	2,124	4,448	6,991	8,557	183	9,666	9,635
D.C.	27,746	42	709	339	N	9,724	3,864	9,380	N	4,888	N
FLORIDA	1,176,431	60,697	77,865	90,586	145,157	129,398	183,631	271,390	20,478	152,740	45,377
GEORGIA	563,925	26,071	11,649	17,582	135,941	14,893	74,227	158,933	7,353	93,218	26,858
HAWAII	51,222	2,567	3,997	818	12,201	2,413	N	15,635	1,285	12,306	N
IDAHO	50,434	5,201	2,392	1,233	17,945	576	1,854	10,245	347	10,208	633
ILLINOIS	841,605	28,501	60,073	50,295	46,821	75,024	N	271,073	35,400	248,651	25,847
INDIANA	164,806	19,223	8,119	10,798	38,895	2,239	N	22,805	20,598	34,861	6,468
IOWA	382,626	32,702	15,521	99,896	109,053	11,102	13	34,681	5,526	54,438	19,814
KANSAS	93,787	8,948	4,861	7,586	27,270	3,099	3,864	12,399	726	24,231	603
KENTUCKY	310,488	21,689	11,284	8,495	69,855	3,024	14,192	33,884	1,886	83,887	61,884
LOUISIANA	227,354	14,533	6,920	10,976	42,861	4,063	27,469	70,879	1,846	49,273	136
MAINE	49,193	915	1,770	3,742	12,322	1,214	N	7,836	1,495	17,604	295
MARYLAND	260,811	4,040	7,878	10,276	94,358	1,547	N	89,113	1,609	35,786	9,408
MASSACHUSETTS	377,378	2,052	8,393	8,742	79,153	9,762	93,143	109,257	4,210	56,900	766
MICHIGAN	364,340	12,508	29,149	34,029	86,709	11,622	N	84,677	30,120	72,624	2,894
MINNESOTA	239,592	35,761	14,262	8,427	82,699	6,376	N	40,143	5,295	46,629	N
MISSISSIPPI	107,389	23,169	8,234	4,643	47,110	3,066	23,777	15,018	3,185	48,063	11,124
MISSOURI	273,652	20,878	14,967	21,329	88,774	4,961	N	32,812	6,947	51,828	31,156
MONTANA	13,245	1,704	680	457	3,603	320	1,523	2,162	225	2,495	76
NEBRASKA	86,657	9,939	5,546	6,816	22,751	2,634	N	15,533	533	18,675	5,130
NEVADA	34,178	796	1,985	763	3,729	405	1,507	12,194	796	9,377	2,626
NEW HAMPSHIRE	61,481	1,745	1,089	845	20,963	912	25,883	4,830	387	4,696	131
NEW JERSEY	771,929	4,178	21,520	16,616	109,427	6,936	326,964	148,299	14,817	123,176	N
NEW MEXICO	56,186	4,747	2,920	2,152	20,849	1,854	4,466	7,197	1,705	8,777	2,319
NEW YORK	1,133,293	13,629	41,667	38,618	192,923	10,268	348,830	304,834	35,481	147,834	N
NORTH CAROLINA	647,455	28,454	37,797	71,695	99,506	19,708	15,992	80,330	20,495	164,519	108,959
NORTH DAKOTA	41,867	6,285	2,652	1,159	11,636	870	3,456	6,393	977	8,208	231
OHIO	1,098,446	46,651	100,924	43,508	157,595	14,925	N	58,848	6,442	163,910	493,643
OKLAHOMA	115,813	10,411	7,585	5,706	38,036	4,864	N	12,857	N	33,494	2,860
OREGON	152,855	5,286	10,848	5,556	45,668	1,935	786	36,648	4,384	24,913	16,511
PENNSYLVANIA	412,022	19,518	15,769	27,759	66,396	9,759	6,704	100,879	30,275	128,751	6,612
RHODE ISLAND	74,092	1,000	1,205	1,114	12,873	654	17,227	22,665	488	7,632	9,314
SOUTH CAROLINA	211,179	16,356	7,276	7,429	43,127	2,488	5,498	63,389	9,452	42,454	13,710
SOUTH DAKOTA	26,672	4,048	1,415	1,144	13,270	583	N	1,597	N	4,615	N
TENNESSEE	321,549	17,901	13,114	16,166	54,369	8,977	34,571	57,497	17,459	91,837	9,858
TEXAS	896,839	71,194	73,311	46,735	225,473	32,145	53,682	116,557	28,405	203,228	46,109
UTAH	118,951	5,613	8,088	4,016	26,841	1,690	10,752	27,386	2,156	23,234	5,983
VERMONT	14,637	1,088	298	454	6,675	486	.	1,883	.	3,746	91

PRELIMINARY

TABLE 1161: ENROLLMENT (VEA), BY INSTRUCTIONAL PROGRAM AREA AND BY STATE: 1980-81 MONDAY, APRIL 4, 1983 11:08:59

STATE	TOTAL	AGRI-CULTURE	DISTRI-BUTION	HEALTH	CONS. AND HMMKG	OCCUP. HOME ECON	TNO. ARTS	OFFICE OCCUP.	TECH-NICAL	TRADE AND INDUS	OTHER NEC
VIRGINIA	480,269	26,392	27,311	8,665	70,350	6,197	58,768	89,839	11,253	61,882	44,012
WASHINGTON	437,490	24,503	29,922	17,142	109,382	10,378	7,793	85,144	14,821	138,445	N
WEST VIRGINIA	128,761	5,592	4,928	14,720	23,918	1,554	N	31,799	4,863	27,253	14,142
WISCONSIN	541,223	27,813	27,353	27,711	120,866	10,482	40,549	143,417	11,763	122,536	1,333
WYOMING	11,277	364	246	142	4,342	13	1,748	2,232	18	1,818	1,154
TOTAL U.S.	16861818	843,481	929,689	949,653	3189248	573,538	1899779	3615048	585,859	3221586	1134817

NOTE: "N's" and "dots" reflect a lack of data because the program and/or institutional stream does not exist in that State.

SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

PRELIMINARY

MONDAY, APRIL 6, 1983 11:06:14

TABLE 1102: ENROLLMENT IN VOCATIONAL EDUCATION PROGRAMS (VEA), BY PROGRAM AREA AND STATE: 1980-81

PROGRAM AREA	TOTAL	SECONDARY	POSTSECONDARY			
			TOTAL	REGIONALLY ACCREDITED	STATE APPROVED	OTHER
AGRICULTURE	843,401	664,286	179,115	88,763	8,243	90,109
DISTRIBUTION	929,689	378,212	551,477	385,156	15,604	150,717
HEALTH OCCUP	949,653	192,337	757,316	563,392	33,096	160,828
CONS. & HMMKING	3,189,248	2,549,591	639,657	330,260	39,299	270,098
OCCUP HOME ECON	573,530	376,591	196,939	136,682	11,752	48,505
OFFICE OCCUP	3,615,098	2,081,170	1,533,678	1,112,166	61,573	359,939
TECHNICAL	505,859	33,854	472,005	424,766	14,994	32,245
TRADE&IND OCCUP	3,221,506	1,344,093	1,877,493	981,497	255,759	670,237
INDUSTRIAL ARTS	1,899,779	1,894,228	5,551	1,002	9	4,540
OTHER VEC	1,134,017	951,669	182,348	136,905	8,624	36,819
TOTAL	16,861,810	10,466,231	6,395,579	4,122,589	448,953	1,824,037

SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

PRELIMINARY

MONDAY, APRIL 4, 1983 11:09:53

TABLE 1104: ENROLLMENT (VFA), BY PROGRAM STREAM AND BY STATE: 1980-81

STATE	TOTAL	SECONDARY	POSTSECONDARY			
			TOTAL	REGIONALLY ACCREDITED	STATE APPROVED	OTHER
ALABAMA	227,928	162,004	65,924	13,631	39,074	13,219
ALASKA	17,557	8,598	8,959	8,959	N	N
ARIZONA	259,585	130,018	129,491	81,392	N	48,099
ARKANSAS	137,832	104,562	33,270	432	7,143	25,695
CALIFORNIA	2,348,351	1,302,096	1,046,255	909,305	N	136,950
COLORADO	153,659	63,034	90,625	90,625	N	.
CONNECTICUT	221,833	206,775	15,058	8,374	N	6,684
DELAWARE	46,006	40,772	5,234	168	N	5,066
D.C.	27,746	27,444	302	N	N	302
FLORIDA	1,176,431	750,842	425,589	209,024	N	216,565
GEORGIA	563,925	433,899	130,026	5,474	6,671	117,881
HAWAII	51,222	36,270	14,952	14,952	N	N
IDAHO	50,638	35,180	15,458	12,038	1,606	1,810
ILLINOIS	841,685	518,578	323,107	291,352	N	31,755
INDIANA	164,886	93,003	71,003	55,127	N	15,876
IOWA	382,826	71,759	311,067	292,519	N	18,548
KANSAS	93,787	39,189	54,598	9,852	16,770	27,976
KENTUCKY	310,488	190,785	119,695	7,252	88,864	23,579
LOUISIANA	227,356	151,268	76,088	N	34,446	41,642
MAINE	49,193	21,813	27,380	3,455	N	23,925
MARYLAND	268,811	182,737	86,074	62,886	N	23,188
MASSACHUSETTS	377,378	317,077	60,301	24,835	N	35,466
MICHIGAN	364,380	209,168	155,172	155,172	N	N
MINNESOTA	239,592	191,752	47,840	N	47,840	N
MISSISSIPPI	187,389	112,426	74,963	28,764	N	58,199
MISSOURI	273,652	163,260	110,392	29,941	N	80,451
MONTANA	13,285	9,522	3,723	N	N	3,723
NEBRASKA	86,657	46,948	39,709	36,988	N	2,721
NEVADA	38,178	23,109	11,069	11,069	N	.
NEW HAMPSHIRE	61,401	57,989	3,412	3,250	N	162
NEW JERSEY	771,929	588,891	183,038	25,387	1,502	156,149
NEW MEXICO	56,186	41,231	14,955	13,274	1,681	N
NEW YORK	1,133,293	890,700	242,593	158,898	2,483	82,812
NORTH CAROLINA	647,455	277,796	369,659	369,659	N	N
NORTH DAKOTA	41,867	27,143	14,724	8,888	N	6,328
OHIO	1,088,886	789,096	385,358	89,401	10,851	275,098
OKLAHOMA	115,013	72,243	42,770	68	38,102	4,600
OREGON	152,055	76,188	75,911	75,911	N	N
PENNSYLVANIA	412,022	258,153	153,869	71,175	3,679	79,015
RHODE ISLAND	78,892	69,895	8,197	2,126	N	2,071
SOUTH CAROLINA	211,179	141,696	69,483	86,267	N	23,216
SOUTH DAKOTA	26,672	20,175	6,497	N	2,995	3,502
TENNESSEE	321,549	192,650	128,899	58,478	14,870	59,551
TEXAS	896,839	487,720	409,119	323,122	9,578	76,423
UTAH	114,951	86,697	28,254	19,868	4,467	3,923

PRELIMINARY

MONDAY, APRIL 4, 1983 11:09:54

TABLE 1104: ENROLLMENT (VEA), BY PROGRAM STREAM AND BY STATE: 1980-81

STATE	TOTAL	SECONDARY	POSTSECONDARY			
			TOTAL	REGIONALLY ACCREDITED	STATE APPROVED	OTHER
VERMONT	14,637	14,462	175	.	175	N
VIRGINIA	400,269	250,628	149,641	95,902	1,630	52,109
WASHINGTON	437,490	147,414	290,076	175,546	114,530	N
WEST VIRGINIA	128,761	72,656	56,105	11,628	N	44,477
WISCONSIN	541,223	289,597	251,626	251,626	N	N
WYOMING	11,277	9,371	1,906	1,817	N	89
TOTAL U.S.	16,861,810	10,466,231	6,395,579	4,122,589	448,953	1,824,037

NOTE: "N's" and "dots" reflect a lack of data because the program and/or institutional stream does not exist in that State.

-159-

SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

PRELIMINARY

MONDAY, APRIL 4, 1983 11:25:28

TABLE 1105: ENROLLMENT (VEA) BY RACE/ETHNICITY AND NON-RESIDENT ALIEN DESIGNATION AND SEX AND BY INSTRUCTIONAL PROGRAM AREA: 50 STATES AND D.C., 1980-81

INSTRUCTIONAL PROGRAM AREA	TOTAL ENROLLMENT	RACIAL/ETHNIC DESIGNATION AND SEX												
		AMER. IND/ ALASKAN NATIVE		ASIAN OR PACIFIC ISLANDER		BLACK NOT HISPANIC		HISPANIC		WHITE NOT HISPANIC		NON-RESIDENT ALIEN		STATUS UNKNOWN
		MALE	FEM.	MALE	FEM.	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEM.	
100 AGRICULTURE.....	843,481	5,575	1,499	4,276	2,016	59,604	14,647	13,774	8,492	551,078	137,868	615	118	48,483
400 DISTRIBUTION....	929,689	3,198	4,825	7,935	8,022	44,245	56,911	20,426	25,522	303,173	386,563	1,352	1,858	65,859
700 HEALTH OCCUP....	989,653	2,007	5,109	2,905	7,387	19,780	81,728	8,485	28,818	173,535	551,069	1,486	2,399	65,745
902 OCCUP HOME ECON	573,530	950	4,076	2,145	5,198	34,486	102,437	6,753	28,907	74,780	286,390	134	518	26,166
1400 OFFICE OCCUP....	3,615,048	10,048	24,847	27,580	57,870	136,792	380,522	95,486	140,273	639,005	1767460	4,599	6,848	373,698
1600 TECHNICAL.....	585,859	3,071	1,350	10,585	2,877	33,030	15,005	18,482	5,880	286,574	85,722	3,219	738	39,366
1700 TRADE&IND OCCUP	3,221,586	23,017	5,073	42,302	10,903	303,317	79,959	129,211	28,167	1940878	413,414	6,939	1,230	237,976
9900 OTHER NEC.....	1,134,017	2,589	2,201	5,900	4,217	108,772	99,241	18,614	15,956	488,555	358,986	317	268	108,901
901 CONS. & HMMKING	3,189,298	7,485	23,886	10,200	28,965	131,311	390,847	34,779	103,292	471,041	1699448	703	5,210	282,881
1000 INDUSTRIAL ARTS	1,899,779	11,585	1,911	19,528	3,629	215,353	59,323	81,697	25,879	862,973	196,726	0	0	421,255
9999 TOTAL	16861810	69,445	74,777	132856	131694	1086098	1279820	377,667	484,184	5710788	5883646	19,368	19,187	1678290

SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

PRELIMINARY

MONDAY, APRIL 4, 1983 11:24:36

TABLE 1169: SPECIAL NEEDS ENROLLMENT (VEA), AND PERCENT OF TOTAL ENROLLMENT BY PROGRAM AREA: 50 STATES AND D.C., 1980-81

PROGRAM AREA		TOTAL ENROLLMENT	SPECIAL NEEDS ENROLLMENT					
			HANDICAPPED		DISADVANTAGED		LEP	
			ENROLLMENT	PERCENT OF TOTAL	ENROLLMENT	PERCENT OF TOTAL	ENROLLMENT	PERCENT OF TOTAL
0100	AGRICULTURE....	843,401	31,238	3.7	124,348	14.7	5,852	0.7
0400	DISTRIBUTION...	929,689	16,447	1.8	105,309	11.3	8,480	0.9
0700	HEALTH OCCUP...	989,653	13,310	1.4	107,777	11.3	7,463	0.8
0902	OCCUP HOME ECON	573,530	34,777	6.1	127,170	22.2	8,871	1.5
1400	OFFICE OCCUP....	3,615,048	91,990	2.5	510,583	14.1	43,625	1.2
1600	TECHNICAL.....	505,859	8,585	1.7	75,390	14.9	11,251	2.2
1700	TRADE&IND OCCUP	3,221,586	109,467	3.4	473,870	14.7	29,713	0.9
9900	OTHER NEC.....	1,134,017	113,777	10.0	328,978	29.0	11,101	1.0
0901	CONS. & HMMKING	3,149,248	89,153	2.8	543,649	17.0	27,395	0.9
1000	INDUSTRIAL ARTS	1,899,779	47,217	2.5	170,492	9.0	17,483	0.9
9999	TOTAL	16,861,810	555,961	3.3	2,567,578	15.2	171,154	1.0

SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

PRELIMINARY

MONDAY, APRIL 4, 1983 11:31:03

TABLE 1681: ENROLLMENT IN COOPERATIVE EDUCATION AND APPRENTICE PROGRAMS, BY PROGRAM AREA AND STREAM: 50 STATES AND D.C., 1980-81

PROGRAM AREA	COOPERATIVE VOCATIONAL EDUCATION ENROLLMENT						APPRENTICE VOCATIONAL EDUCATION ENROLLMENT			
			POSTSECONDARY				POSTSECONDARY			
	TOTAL	SECONDARY	TOTAL	REGIONALLY ACCREDITED	STATE APPROVED	OTHER POST-SECONDARY	TOTAL	REGIONALLY ACCREDITED	STATE APPROVED	OTHER POST-SECONDARY
AGRICULTURE...	28,371	23,215	5,156	4,771	209	176	832	728	0	104
DISTRIBUTION...	193,197	171,537	21,660	19,260	884	1,516	4,287	4,279	0	8
HEALTH OCCUP...	19,987	13,355	6,632	6,250	199	183	5,639	5,357	0	282
OCCUP HOME ECON	44,519	39,501	5,018	4,263	449	306	1,396	1,386	0	10
OFFICE OCCUP...	146,299	117,430	28,869	27,357	348	1,164	5,681	5,622	0	19
TECHNICAL.....	10,458	1,489	8,965	8,780	168	17	6,554	5,019	194	1,341
TRADE&IND OCCUP	148,915	125,647	23,268	19,186	1,398	2,684	153,648	68,112	11,974	73,562
OTHER NEC.....	30,443	25,995	4,448	3,853	24	571	3,443	3,092	28	323
TOTAL	622,189	518,169	104,016	93,720	3,679	6,617	181,480	93,595	12,196	75,689

SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

PRELIMINARY

TABLE 1701: ENROLLMENTS BY LEGISLATIVE PURPOSE BY STATE: 1980-81 MONDAY, APRIL 4, 1983 11:31:56

STATE	TOTAL	LEGISLATIVE PURPOSE				
		WORK STUDY	SUPPORT SERVICES FOR WOMEN	DAY CARE SERVICES	VOC. ED. FOR DISPLACED HOMEMAKERS	CONSUM. & HMMKG. ED. PROGRAMS IN ECONOMICALLY DEPRESSED AREAS
ALABAMA	6,361	794	0	0	334	5,233
ALASKA	0	0	0	0	0	0
ARIZONA	470	290	2	70	0	108
ARKANSAS	40,449	676	0	0	556	39,217
CALIFORNIA	136,688	5,312	22,696	1,529	13,458	93,693
COLORADO	8,244	86	257	0	2,890	5,011
CONNECTICUT	65,743	385	601	0	26	64,731
DELAWARE	2,915	342	171	0	919	1,483
D.C.	276	181	0	0	125	0
FLORIDA	149,929	5,561	5,736	0	5,180	133,452
GEORGIA	22,927	520	0	0	276	22,131
HAWAII	566	262	0	0	304	0
IDAHO	15,426	44	0	0	199	15,183
ILLINOIS	12,681	1,760	N	N	323	10,598
INDIANA	22,179	550	N	N	N	21,629
IOWA	35,199	N	N	N	140	35,059
KANSAS	13,088	34	292	67	2,557	10,138
KENTUCKY	31,463	957	426	61	316	29,703
LOUISIANA	8,642	245	0	7	0	4,350
MAINE	10,120	0	0	0	500	9,620
MARYLAND	55,306	400	0	0	1,931	52,975
MASSACHUSETTS	42,067	0	0	0	383	41,684
MICHIGAN	38,310	1,337	30,940	681	1,077	4,355
MINNESOTA	2,709	0	2,200	34	475	0
MISSISSIPPI	2,569	0	0	0	240	2,329
MISSOURI	77,025	260	0	0	2,011	74,754
MONTANA	200	0	0	0	100	100
NEBRASKA	7,513	118	0	0	1,904	5,491
NEVADA	2,128	63	0	0	892	1,173
NEW HAMPSHIRE	17,135	N	2	N	202	16,931
NEW JERSEY	8,541	8,541	.	.	.	.
NEW MEXICO	19,233	0	0	0	118	19,115
NEW YORK	142,605	3,978	25	0	1,070	137,532
NORTH CAROLINA	45,433	912	103	18	403	43,997
NORTH DAKOTA	3,680	144	0	0	185	3,351
OHIO	108,489	655	0	0	1,348	106,486
OKLAHOMA	18,190	520	0	0	2,488	15,182
OREGON	19,003	3	7,408	962	0	10,630
PENNSYLVANIA	32,576	459	0	55	2,640	29,422
RHODE ISLAND	8,068	62	0	0	750	7,256
SOUTH CAROLINA	43,716	124	0	40	425	43,127
SOUTH DAKOTA	2,317	60	0	0	92	2,165
TENNESSEE	44,893	1,220	0	0	485	43,188
TEXAS	98,462	1,439	7,901	987	4,372	83,803

201

202

PRELIMINARY

TABLE 17011 ENROLLMENTS BY LEGISLATIVE PURPOSE BY STATE: 1980-81 MONDAY, APRIL 4, 1983 11:31:56

STATE	TOTAL	LEGISLATIVE PURPOSE				
		WORK STUDY	SUPPORT SERVICES FOR WOMEN	DAY CARE SERVICES	VOC. ED. FOR DISPLACED HOMEMAKERS	CONSUM. & HMMKG. ED. PROGRAMS IN ECONOMIC-CALLY DEPRESSED AREAS
UTAH	163	59	69	2	33	0
VERMONT	99	99	0	0	0	0
VIRGINIA	22,646	1,838	0	0	0	20,808
WASHINGTON	28,804	225	8,134	308	11,417	4,720
WEST VIRGINIA	14,408	324	0	0	317	13,767
WISCONSIN	51,991	653	12,359	1,868	3,968	33,148
WYOMING	1,532	0	0	0	168	1,364
TOTAL U.S.	1,531,083	37,412	99,317	6,569	67,593	1,320,192

NOTE: "N's" and "dots" reflect a lack of data because the program and/or institutional stream does not exist in that State.

SOURCE: U.S. DEPARTMENT OF EDUCATION, NATIONAL CENTER FOR EDUCATION STATISTICS, VOCATIONAL EDUCATION DATA SYSTEM.

APPENDIX 3. PROJECTS OF NATIONAL SIGNIFICANCE IN PROGRESS DURING FISCAL YEAR 1982

Projects of National Significance in progress during fiscal year 1982. (Does not include the National Center for Research in Vocational Education or the six Curriculum Coordination Centers.)

Title	Contractor	Project period
State Dissemination Plan for Vocational Education Instructional Materials	Cornell University Ithaca, NY	10-1-81 to 6-30-83
Identification and Development of Procedures for Facilitating Access to Employment through Vocational Education for Displaced Homemakers	Education Development Center, Inc. Newton, MA	10-1-79 to 12-31-81
Basic Skill Development Through Vocational Education	Cornell University Ithaca, NY	10-1-79 to 5-31-82
Development of Safety and Health Instructional Materials	Technical Education Research Center, Waco, TX	10-1-79 to 1-31-82
Energy Conservation Vocational Instructional Materials	American Institutes for Research Palo Alto, CA	10-1-80 to 5-31-82
Improvement of Related Instruction in Apprenticeship Programs	Conserva, Inc. Washington, DC	10-1-80 to 1-31-83
Establishment of a Women's Committee on Employment and Related Social Issues	National Academy of Sciences Washington, DC	9-1-81 to 2-28-83
To Develop a Para-Professional Rurally Oriented Home-Family Health Training Program	Baptist College at Charleston Charleston, SC	10-1-81 to 9-30-83
The Contribution of Business and Industry to the Vocational Education of Inner City Youth and Adults	National Academy of Sciences Washington, DC	10-1-81 to 6-30-83

Development of Competency Measures for Vocational Skill Areas	American Institutes for Research Palo Alto, CA	10-1-79 to 3-31-83
Linking Community Collaborative Comprehensive Programs of Career Guidance with Youth Education and Employment Initiatives	National Center for Research in Vocational Education Columbus, OH	10-1-81 to 9-30-83
Development of a Support System for Sex Equity Services in Vocational Education	Far West Lab San Francisco, CA	6-15-80 to 2-14-82
Identification and Dissemination of Model Programs for the Involvement of Vocational Education in Economic Development	American Vocational Association Arlington, VA	10-1-79 to 4-30-82
Guidance Team Training with Emphasis on Guidance for Vocations and Learners with Special Needs	National Center for Research in Vocational Education Columbus, OH	10-1-79 to 3-31-82
Procedures for Utilizing Volunteers to Improve Vocational Education in Urban Areas	Conserva, Inc. Raleigh, NC	10-1-79 to 9-30-82
Development of an Outreach Program to Attract Women Into Male-Intensive Vocational Education Program	Technical Education Research Centers, Inc. Cambridge, MA	10-1-79 to 12-31-81
Vocational Education Personnel Development in the Pacific Basin Territories	University of Hawaii Honolulu, HI	10-1-79 to 12-31-81
Development of Entrepreneurship Training Components for Vocational Education	American Institutes for Research Palo Alto, CA	10-1-79 to 11-30-81
Utilizing Vocational Education To Improve Productivity	Conserva, Inc. Raleigh, NC	10-1-81 to 9-30-82

APPENDIX 4. PRODUCTS DEVELOPED BY THE NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION BY FUNCTION, FISCAL YEAR 1982

Products developed by the National Center for Research in Vocational Education, by function, fiscal year 1982.

Function	Title
1. Applied research and development	
Independent studies	Developing a Robotics Training Program: Guidelines and Specifications.
	Developing a CAD/CAM Training Program: Guidelines and Specifications.
	High Technology Program Planning Procedures.
	Microcomputers in Vocational Education: Current and Future Uses.
	Retraining and Upgrading Workers: A Guide for Postsecondary Educators.
	Customized Training for New and Expanding Industry - A Vocational Education Role in State and Local Economic Development.
	The Self-Reported Preparation of Recent Vocational Teacher Education Graduates to Instruct Exceptional Students.
	Vocational Education Teacher Preparation to Improve Secondary Students Basic Skills: An Exploratory Study.
	Equity and Vocational Education: An Initial Synthesis of Progress and Recommendations for the Future.
	Research Report: Patterns of Participation in Vocational Education by Secondary Students in Several LEAs.
	Basic Skills Models for Implementation in Vocational Education: Advantages and Disadvantages.
	Vocational Education's Response to Skilled Industrial Worker Shortages.
	Enhancing Career Development: Recommendations for Action, A Review of Empirical Studies of the Effects of Career Guidance.
	Revision of Entrepreneurship Modules.
	Technological Update of Vocational/Technical Teachers: A Status Report.
	Approaches to Technological Updates of Vocational/Technical Teachers.

	Designated studies	Communication Linkage Implementation Study: Final Report. 70 Performance Based Teacher Education Modules (revised).
2.	Leadership development	The National Academy for Vocational Education: Five Year Report.
3.	Dissemination and utilization (D&U)	
	Selected D&U products	Vocational Planning Guide. Statewide Occupational Evaluation System Assessment Package. Survival Skills for the Real World. Idea Book - Meeting the Needs of Disadvantaged Youth. The High School Student in the Working World: A Handbook for Counselors. Vocational Educators' Handbook for Economic Development.
	Brochure	Interchange.
	Knowledge products	Accrediting Occupational Training Programs. Evaluation: Policy Issues. Displaced Workers: A Challenge for Vocational Education. Cooperative Education. Vocational Education for Immigrant and Minority Youth. Quality Circles: Applications in Vocational Education. Learning Styles: Applications in Vocational Education. National Occupational Projections. Employer-sponsored Skill Training. Older Workers: What Vocational Education Can Do.
	Interpretive products (Briefs based on 1981 knowledge products)	Job Placement - Programs for the Future. Vocational Education for Migrant Youth. Vocational Education in Corrections. Vocational Education for Gifted and Talented Students. Emerging Skills - Implications for Vocational Education. Worker Productivity - A Challenge for Vocational Education. Reindustrialization - Implications for Vocational Education. Summary and Implications of Dissemination and Utilization Activities: A Five-Year Report. D&U Conference Proceedings.
	Newsletters	Memo (2 issues).

Product brochures	Entrepreneurship Education for Youth and Adults. Training for Employment. Planning and Improving Vocational Education and Programs. Economic Growth Through Human Resources Development. Linking Strategies for Vocational and Technical Education.
4. Information for planning and policy	Increasing Community Involvement in Cooperative Education. The Training and Experience of State Staff in Vocational Education: Implications for Federal Policies. Examining Secondary Vocational Programs with High and Low Training-related Placement. Opinions About the Roles of Secondary and Postsecondary Vocational Education. Influences of High School Curriculum on Determinants of Labor Market Experiences. Vocational Education and the High School Dropout. High School Work Experience and Its Effects. Job Satisfaction - Antecedents and Associations. Labor Force-related Outcomes, Education-related Outcomes, and Public Acceptance of Vocational Education. Recent Research on Labor Market Outcomes of Secondary Vocational Education.
5. National Center Clearinghouse	Vocational Education Program Improvement: An Analysis of State-Administered Projects FY 1978-1982. Resources in Vocational Education, Vol. 15, Number 1, Curriculum Resources. Projects in Progress - FY 1981.
6. Evaluation	Selected Evidence Supporting or Rejecting Eighteen Outcomes for Vocational Education. Time on Task in Selected Vocational Classes. Factors Influencing Program Decisions in Vocational Education. The Roles and Functions of Vocational Education: Some Current Perspectives. R&D Impact of Criteria for Improving Vocational Education Programs..

APPENDIX 5. NATIONAL OCCUPATIONAL INFORMATION COORDINATING COMMITTEE, (NOICC), CAREER INFORMATION DELIVERY SYSTEMS

NOICC-funded Career Information Delivery Systems (CIDS), Incentive grant awards by State

Fiscal year 1982 sources of supplemental funds received by NOICC-funded Career Information Delivery Systems

NOICC-funded Career Information Delivery Systems (CIDS)
Incentive grant awards by State

State	Total amount of funds from NOICC	Beginning date	Ending date	Fiscal year 1982 funding only
Alaska	$277,500	12/1/79	11/30/81	$ -0-
Arizona	334,500	12/1/79	9/30/82	40,000
Connecticut	334,500	12/1/79	9/30/82	40,000
Delaware	334,000	12/1/79	9/30/82	68,000
Florida	294,000	12/1/79	9/30/82	34,500
Georgia	332,500	12/1/79	9/30/82	40,000
Hawaii	256,000	12/1/79	9/30/82	155,000
*Idaho	78,500	10/1/81	9/30/82	78,500
Iowa	334,200	12/1/79	9/30/82	119,000
Kansas	335,550	12/1/79	9/30/82	47,000
Maine	274,250	12/1/79	9/30/82	40,000
Maryland	320,250	12/1/79	6/30/83	150,000
*Montana	97,000	5/26/81	9/30/82	97,000
Nebraska	209,750	12/1/79	9/30/82	84,000
*New Jersey	150,000	5/26/81	5/31/83	150,000
New York	293,500	12/1/79	9/30/82	69,000
North Carolina	332,500	12/1/79	9/30/82	40,000
South Carolina	323,850	12/1/79	9/30/82	40,000
*Vermont	73,000	5/26/81	3/30/83	73,000
*Virginia	150,000	5/26/81	12/31/82	150,000
*Wyoming	70,000	5/26/81	9/30/82	70,000
Total	$5,205,350			$1,585,000

* These States received 1-year developmental grants for FY 82. Funding for a second year has been approved for FY 83. The other 15 States received 2-year developmental grants in December 1979. Nine of these States were awarded $40,000 supplements in FY 82.

Source: National Occupational Information Coordinating Committee, March 1983.

Fiscal year 1982 sources of supplemental funds received by NOICC-funded Career Information Delivery Systems

State	Federal incentive awards by NOICC	State funds*	User fees	State legislature	Total
		(in thousands)			
Alaska	$ -0-	$102.5	$125.0	$160.0	$387.5
Arizona	40.0	120.5	38.5	-0-	199.0
Connecticut	40.0	245.0	-0-	-0-	285.0
Delaware	68.0	115.0	-0-	-0-	183.0
Florida	34.5	144.0	433.5	-0-	612.0
Georgia	40.0	92.0	60.0	-0-	192.0
Hawaii	155.0	125.0	66.0	272.0	618.0
Idaho	78.5	160.0	-0-	-0-	238.5
Iowa	119.0	266.0	30.0	-0-	415.0
Kansas	47.0	48.0	45.0	-0-	140.0
Maine	40.0	85.0	60.0	-0-	185.0
Maryland	150.0	132.5	-0-	-0-	282.5
Montana	97.0	58.0	19.0	-0-	174.0
Nebraska	84.0	70.0	40.0	-0-	194.0
New Jersey	150.0	139.0	-0-	-0-	289.0
New York	69.0	135.0	-0-	-0-	204.0
North Carolina	40.0	42.0	240.0	-0-	322.0
South Carolina	40.0	120.0	98.0	-0-	258.0
Vermont	73.0	103.5	-0-	-0-	176.5
Virginia	150.0	246.5	-0-	-0-	396.5
Wyoming	70.0	4.0	25.0	-0-	99.0
Total	$1585.0	$2553.5	$1280.0	$432.0	$5850.5

* Also includes Federal funds controlled by the State. Vocational education funds were contributed by 12 States: Alaska, Arizona, Connecticut, Florida, Iowa, Maine, Maryland, Montana, Nebraska, New Jersey, Vermont, and Virginia.

Source: National Occupational Information Coordinating Committee, March 1983.